Journal of the

AMERICAN PHARMACEUTICAL ASSOCIATION

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Pharmacists from Six States Attend Detroit District Meeting

The Detroit District Meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION, held in conjunction with the Annual Meeting of the Michigan Academy of Pharmacy, on April 20, proved to be the most successful of these District Meetings held so far.

Members of the AMERICAN PHARMACEUTICAL ASSOCIATION from Michigan, Illinois, Indiana, Ohio, Wisconsin, and Pennsylvania, were in attendance as were also members of the Student Branches of the Detroit Institute of Technology, Wayne University, and the University of Michigan.

President Henry Gregg, who presided over the District Meeting, also addressed the group on the activities of the ASSOCIATION, and Secretary Robert P. Fischelis spoke on "Pharmacy and the AMERICAN PHARMACEUTICAL ASSOCIATION in the Nation's Service." He outlined in some detail the activities of the ASSOCIATION at the Headquarters in Washington and, in answer to questions from the audience, gave a detailed analysis of the ASSOCIATION'S effort in endeavoring to arrive at a satisfactory solution of the prescription filling and refilling requirements under the Federal Food, Drug and Cosmetic Act.

Dean Hugh C. Muldoon of Duquesne University, Pittsburgh, gave a fine inspirational talk following the luncheon at the Statler Hotel, after which the program of the day was continued in the beautiful Rackham Memorial Building under the auspices of the Michigan Academy of Pharmacy.

Here the assembled pharmacists heard three splendid lectures by experts in the practice of medicine and surgery.

Dr. Sibley W. Hoobler of the University of Michigan Medical School, spoke on the "Present Status of the Management of Peripheral Vascular Diseases." Dr. Franklin D. Johnston, also of the University of Michigan Medical School, spoke on "Critical Discussion of Drugs Used in Treating Heart Conditions," and Dr. Prescott Jordan of the Wayne University Medical School spoke on "Surgery as Related to the Circulatory System."

An evening lecture by Dr. Tom Spies on "Recent Advances in Nutrition and Metabolism," which followed a well-attended dinner, proved to be a most pleasant climax for the end of a perfect day of intellectual, professional and social contact for the pharmacists in the Detroit Area.

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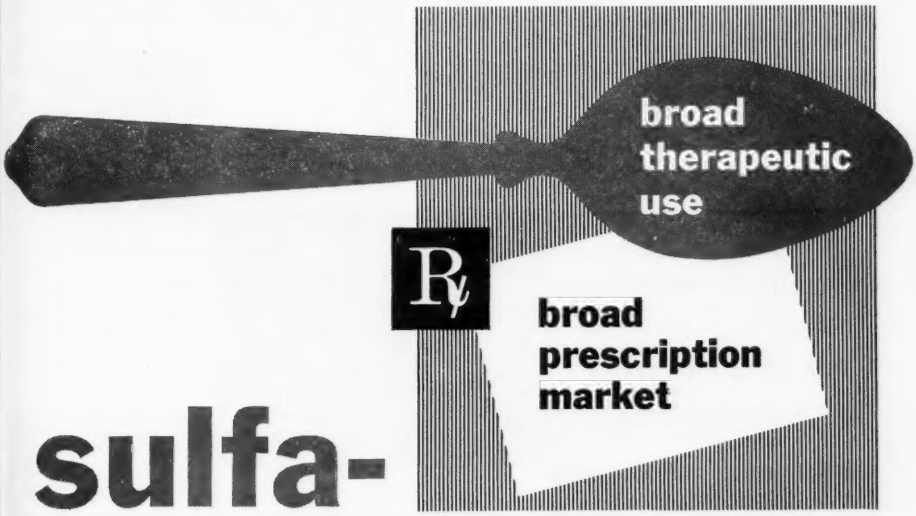

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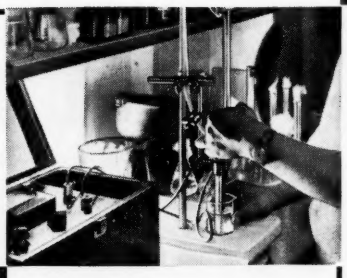

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1. Bigger, J.W.: Lancet 2:46, 1950.
2. Vollmer, H., Pomerance, H.H., and Brandt, I.K.: New York State J. Med. 50:2293, 1950.

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RECENT

PROGRESS IN MEDICINE

On the following pages, this month and every month, the pharmacist will find brief digests of the latest clinical reports in leading medical journals. They have been selected because of their immediate interest to both physician and pharmacist.

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RECENT PROGRESS IN MEDICINE

AUREOMYCIN SUCCESSFUL IN EARLY SYPHILIS

Evidence that aureomycin was effective in treatment of early syphilis was brought out in a preliminary study reported by Drs. J. Rodriquez, F. Plotke, S. Weinstein, and W. W. Harris of Chicago.

Sixty-seven patients each received a total of 70 Gm. of aureomycin, administered orally in $11^1/_3$ days. The patients were observed for a six- to seven-month period, with results of treatment as follows: 59.7 per cent of the patients became sero-negative; 21.1 per cent had a reaction of 3 Kahn units or less; and 15.8 per cent had a reaction of 4 Kahn units or more.

Aureomycin rid the syphilis lesions of surface spirochetes in an average of 39 hours.

(Rodriquez, J., Plotke, F., Weinstein, S., and Harris, W. W., *Arch. Dermat. & Syph.*, **63:** 433, Apr., 1951.)

USE STREPTOMYCIN TO TREAT TUBERCULOSIS IN CHILDREN

Streptomycin has proved valuable in treating tuberculosis in children under 12, according to Drs. William Berenberg, Charles D. Cook, and Claire W. Twinam of Boston. The authors tested the drug on 27 children between the ages of 7 weeks and 17 years, selected because they failed to improve with the usual treatment.

They reported the following results: the disease was arrested in five, eighteen were improved, three were unimproved, and one was worse. The patient who became worse was a 7-week-old infant who developed tuberculous meningitis.

All three of the patients who did not improve were over 12 years of age. Eight patients over 12 received the drug but only two appeared to derive any lasting benefit from it.

(Berenberg, W., Cook, C. D., and Twinam, C. W., *J. A. M. A.*, **145:** 1044, Apr. 7, 1951.)

AMPIN CLINICALLY TESTED

In what the authors concluded to be the greatest advance in hypodermic techniques since the introduction of the syringe and needle, Drs. R. C. Batterman and C. A. Rovenstine of New York reported on the use of the Ampin, an automatic disposable ampule injector for routine and emergency hypodermic medications.

The Ampin was carefully studied to determine whether the device offered any advantage over the ordinary syringe-needle method of administering hypodermic medications and the practicability and ease of use of the automatic ampule.

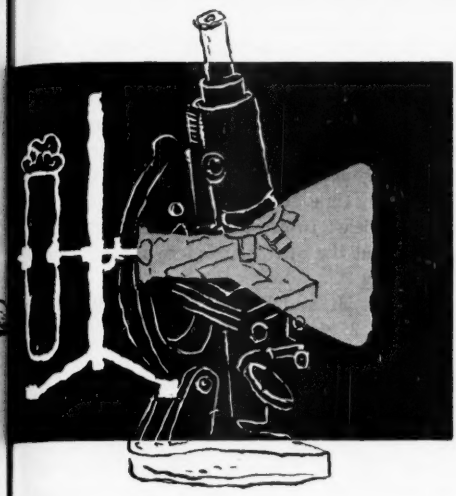
The six-month investigation, by the Committee on Drugs and Formulary of Bellevue Hospital, during which 1,700 Ampins were tested, revealed the following:

1. The Ampin provides a safe, reliable, and easy method for parenteral administration.
2. The drug is always available in sterile form for instantaneous use.
3. The economy in time, service, and actual cost of equipment offsets higher cost of the Ampins.
4. The possibility of syringe-transmitted hepatitis is eliminated.
5. Accuracy of dosage is assured.

The Ampin consists of a glass ampule, which contains the medication under pressure of an inert gas. A flexible, rubber connector tube contains the tip of that part of the ampule containing the medication and at its other end, a filter and the needle hub. The needle extends beyond the tube, and the whole is enclosed in a sterile glass cover.

The subcutaneous needle is of 22 gauge stainless steel, $^1/_2$ inch long; the needle for intramuscular use is of 20 gauge and is $1^1/_2$ inches long.

(Batterman, R. C., and Rovenstine, E. A., *J. Lab. & Clin. Med.*, **35:** 795, May, 1951.)



DIETHYLSTILBESTROL RECOMMENDED FOR DIABETIC PREGNANT WOMEN

Hope for lowering the mortality rate of infants born of diabetic women was seen in the use of diethylstilbestrol as a routine medication.

Drs. J. M. Moss of Washington, D. C., and H. B. Mulholland of Charlottesville, Va., reviewed the pregnancy records of 500 diabetic women, and found that the over-all fetal mortality rate was 54.7 per cent.

However, further review showed that the fetal survival rate rose to 97 per cent when the mothers had normal hormonal assays. Accordingly, diethylstilbestrol was found to be effective in correcting the hormonal abnormalities, and was found to be better than naturally occurring androgens and estrogens.

The dosage schedule recommended ranged from one 5-mg. tablet daily beginning the seventh week of pregnancy to a daily dose of 125 mg. given in 25-mg. tablets by the thirty-sixth week of pregnancy.

(Moss, J. M., and Mulholland, H. B., *Ann. Int. Med.*, **34:** 678, Mar., 1951.)

INCURABLE DERMATITIS RESPONDS TO PENICILLIN THERAPY

A hitherto incurable skin disease, known as acrodermatitis chronica atrophicans and characterized by inflammation of the skin of the hands and feet, progressing slowly upward with wasting away of the affected parts, has responded to treatment with penicillin.

In each of six cases of the disease, Dr. V. H. Witten of New York administered procaine penicillin G in peanut oil with 2 per cent aluminum monostearate in doses of 600,000 units three times a week until a total of 12,000,000 units had been given.

The symptoms usually disappeared or substantially improved while the patient was still under treatment. The characteristic bluish-red discoloration faded, and infiltration of the tissues decreased, but was noticeable three months after penicillin therapy had been stopped. There was no improvement of established atrophy.

(Witten, V. H., *J. Invest. Dermat.*, **16:** 193, Mar., 1951.)

CUTANEOUS PREGNANCY TEST

The cutaneous skin test for pregnancy, known as the "Q-Test" and employing colostrum as the reagent responsible for the reaction on the skin, proved 95 per cent reliable in 112 normal pregnant women and 98 per cent reliable in 116 nonpregnant women.

The colostrum, the fluid secreted by the breast a few days before and after birth, was first used in cutaneous tests for pregnancy in 1941, but was not popularized because of difficulty of administration.

Dr. Nino Ferrero of Women's Hospital, Pasadena, Calif., used a recently developed microdispenser, which greatly simplifies the administration of the colostrum. The microdispenser is constructed to hold a minute dose, and embodies a needle pre-positioned to be parallel with the skin-contacting surface of the instrument, thereby minimizing the possibility of the colostrum being given subcutaneously rather than intra-epidermically.

In the test, $^1/_{70}$ cc. of the colostrum was injected into the epidermis. At the end of 15 minutes, pregnant patients exhibited a pearly wheal somewhat increased in size, but little or no redness of the skin. In 60 minutes, all signs of the wheal and redness, if any, had disappeared.

The nonpregnant patient exhibited a marked increase in wheal size after 15 minutes. The wheal was still pearly, and was surrounded by a small irregular patch of reddened skin. In 60 minutes, the redness of the skin had disappeared, but the wheal was inflamed and persisted for several hours.

Each test in Dr. Ferrero's series was verified by clinical or other pregnancy tests.

(Ferrero, N., *Am. J. Obst. & Gynec.*, **61:** 672, Mar., 1951.)

(Continued on Page 264)

Progress in Medicine

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SYMPTOMATIC TREATMENT OF COMMON COLD

Because most persons cannot begin treatment of the common cold at the first sign of symptoms, Dr. H. F. Johnson, Jr., of Philadelphia treated 427 patients with an antihistaminic combined with other drugs which are specific for the conditions most commonly occurring in coryza.

Dr. Johnson prescribed the following:

Methapyrilene hydrochloride, N. N. R.	25	mg.
Extract belladonna	7.5	mg.
Desoxyephedrine hydrochloride (racemic)	1.25	mg.

The belladonna was added to the compounded preparation to suppress excessive nasal secretion. Desoxyephedrine hydrochloride was added to offset the drowsiness caused by methapyrilene hydrochloride.

Two tablets provided methapyrilene hydrochloride, 50 mg., extract belladonna, 15 mg., and racemic desoxyephedrine hydrochloride, 2.5 mg. This dose was taken every four hours during the waking day, although one tablet seemed sufficient unless the symptoms were pronounced.

Ninety-two per cent of the patients experienced benefit; 34 per cent reported that all symptoms disappeared in 24 hours or less; 32 per cent obtained marked relief and the large majority of the remainder had some relief.

(Johnson, H. F., Jr., *Am. Practitioner*, **2:** 250, Mar., 1951.)

DEPO-HEPARIN, NEW ANTICOAGULANT

The intensity and duration of the effect of Depo-Heparin, a new anticoagulant agent, was tested by Drs. N. H. Moss and D. R. D'Alessandro of Philadelphia, who concluded that the therapeutic results of the new drug justified its clinical use.

Depo-Heparin was used in twenty cases as a postoperative prophylactic measure and in six as a therapeutic measure for either blood clot in the veins or coronary thrombosis.

The route of administration was deeply subcutaneous. Only one injection of 200 mg. per each patient was made. The average duration of the anticoagulant action of Depo-Heparin was 21.8 hours. Peak coagulation time was 56.9 minutes, reached in an average of 7.5 hours. Only minor untoward reactions were noted.

In summary, the authors concluded that an adequate anticoagulant effect response could be expected by administration of the drug once in 24 hours. For accurate management of dosage, coagulation time determinations should be checked at least twice daily, once 8 hours after injection and the next just before the next administration.

(Moss, N. H., and D'Alessandro, D. R., *Am. Practitioner*, **2:** 309, Apr., 1951.)

COMPOUND 75 G. T. FOR EYE REFRACTION

Clinical use of a new drug which promises to be more efficient than drugs now in use for dilating the pupil of eye and paralyzing the ciliary muscle which controls the eyelids, thus allowing better examination of the eye, was reported by Drs. Bruno S. Priestley and M. M. Medine.

The drug is now known as compound 75 G. T. Although the chemical formula was not given, it is a member of a new series of antispasmodic agents belonging to the class of basic esters of substituted phenyl acetic acids.

Compound 75 G. T. was found to be nonirritating and nontoxic in a concentration of 0.5 per cent. It was rapid in action, and more effective than homatropine in immediate paralysis of the ciliary muscle, and less persistent in recovery of the muscle.

The authors predicted that the new drug could displace homatrophine, and possibly atrophine, in the practice of refraction.

(Priestley, B. S., and Medine, M. M., *Am. J. Ophthalomol.*, **34:** 572, Apr., 1951.)

ALUMINUM PENICILLIN AIDS PNEUMOCOCCAL PNEUMONIA

Satisfactory results were obtained in the treatment of thirty-seven cases of pneumococcal lobar pneumonia in which oral aluminum penicillin was given, according to Drs. J. C. Harvey and G. S. Mirick of Baltimore, Md.

Thirteen other patients in the series, whose infections were more severe, were treated by penicillin given intramuscularly.

The patients treated with aluminum penicillin were given 300,000 units at diagnosis and an additional 300,000 units every 12 hours until the patient had been without fever for 72 hours. Twenty patients had no fever two days after

(Continued on Page 266)

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Progress in Medicine

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treatment was begun. Six were without fever in three days and the remainder in four days. No toxic manifestations from the aluminum penicillin were observed.

(Harvey, J. C., and Mirick, G. S., *Bull. Johns Hopkins Hosp.*, **88:** 270, Mar., 1951.)

PENICILLIN OINTMENT FOR EYES OF NEWBORN

Silver nitrate solution, the preparation now being used in the eyes of newborn babies to prevent infection, may be replaced by penicillin ointment.

Drs. H. H. Davidson and N. J. Eastman and Sanitarian Justina H. Hill of Baltimore recommend that penicillin ointment be used in the eyes of newborn infants in preference to silver nitrate because, in their opinion, it is the most efficacious, the safest, and least irritative agent for this purpose.

The opinion was expressed that, where necessary, regulations governing the use of silver nitrate should be changed to permit the use of penicillin ointment in hospital practice when the physician prefers it to silver nitrate.

Three different methods of eye care—penicillin ointment, penicillin intramuscular injections, and silver nitrate—were used in rotation for a week at a time. During a two-year period, 4,163 infants were treated with one of the three methods.

All three methods proved equally effective in preventing gonococcal infection, but only 10.6 per cent of the babies treated with penicillin ointment showed any signs of inflammation such as redness, swelling, or discharge. The incidence of irritation in silver nitrate treated babies was 48.7 per cent. Irritation from the intramuscular treatment of penicillin was recorded as 13.8 per cent.

(Davidson, H. H., Hill, J. H., and Eastman, N. J., *J. A. M. A.*, **145:** 1052, Apr. 7, 1951.)

COLCHICINE USED IN TREATMENT OF SKIN CANCER

Colchicine, an alkaloid which has been undergoing study in experimental treatment of cancer, was used clinically in seven cases of skin cancer with disappearance of lesions in five cases, Dr. Lawrence M. Nelson of Santa Barbara, Calif., reported.

The colchicine was injected directly into the lesions in a saline solution containing 1 mg. of colchicine per cubic centimeter. Approximately 0.1 cc. of the colchicine solution was injected into the center of the lesion, followed by a similar injection in 2 or 3 days.

Of seven cancers in which injections were made, five clinically disappeared. One other disappeared except for pigmentation, but recurred within 3 months. One other was not influenced either clinically or microscopically by the drug.

(Nelson, L. M., *Arch. Dermat. & Syph.*, **63:** 440, Apr., 1951.)

CHLORAMPHENICOL USED AS PROPHYLAXIS AGAINST WHOOPING COUGH

In a study to determine the prophylactic effects of chloramphenicol in the pre-paroxysmal stage of whooping cough, Dr. Andrew Bogdan of Westminster, England, found that the antibiotic successfully modified the illness in ten of thirteen children who had been in contact with known cases.

In seven of the thirteen cases, *H. pertussis* was isolated by swabbing. In four of these, the disease was arrested at the catarrhal stage and resembled a mild cold. In another patient the cough was arrested.

Of the six cases in which the swabbings were negative, three were arrested in the catarrhal stage and one before the cough became spasmodic.

The chloramphenicol was given five times a day for five days. The daily dosage was equivalent to 22 mg. per kilogram of body weight.

(Bogdan, A., *Lancet*, **260:** 764, Apr. 7, 1951.)

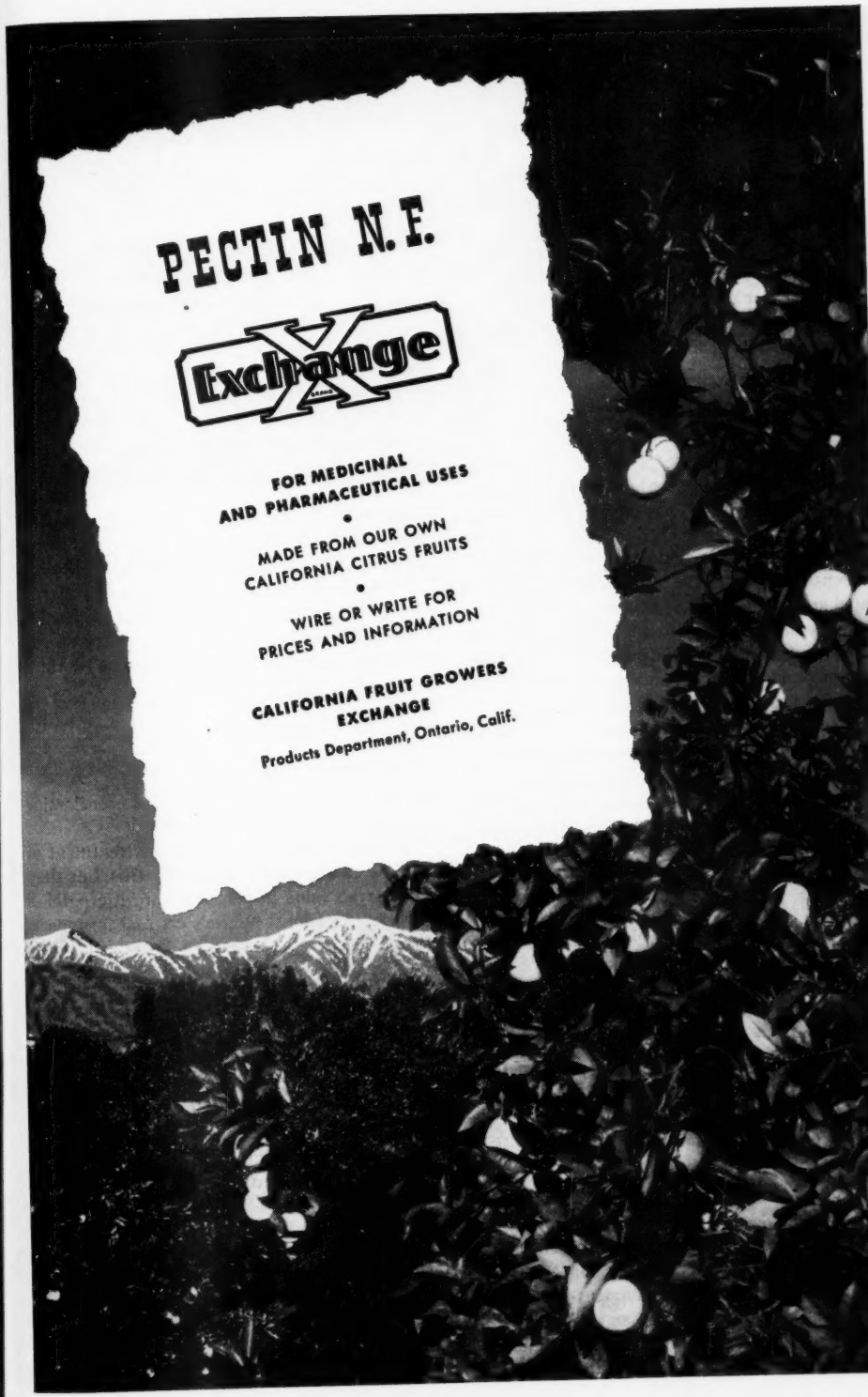
PRESCRIPTION WRITING FOR CONTACT DERMATITIS

Contact dermatitis is an inflammatory reaction of the skin due to the external action of either physical, animal, vegetable, mineral, or chemical substances. This inflammatory reaction may consist of redness, swelling, blisters, oozing, or rusting, or any combination of these. It is usually followed by shedding, lichenification, and pigmentation.

Dr. J. G. Downing, of Boston, has had success with the preparations described below.

Powders are valuable in treatment of contact dermatitis because they are cooling and drying, especially on red, inflamed, unbroken skin. The mineral substances are best—talc, zinc oxide, calcium carbonate, magnesium carbonate, and kaolin. A reddened healing area may be protected by borated talc. The incorporation of a small amount of oil is helpful.

(Continued on Page 268)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Progress in Medicine

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Magnesium stearate	12
Liquid petrolatum	12
Talc	*q. s.* 120

Lotions should be used on congested and oozing surfaces. Two useful and popular emulsions are calamine lotion U. S. P. XIII and neocalamine lotion N. F. VIII, containing bentonite. The addition of phenol, 1 to 2 per cent, and menthol, 0.25 to 0.5 per cent, relieves the pruritus. The following is an excellent formula for relief of severely itchy, vesicular areas:

Zinc sulfate	2
Phenol	2
Zinc oxide	15
Lime water	*q. s.* 250

This can be colored to match the patient's skin by adding neocalamine powder in proper proportions.

Solutions of tannic acid and ferric chloride and concentrated potassium permanganate are advocated and useful in the treatment of the dermatitides resulting from contact with poisonous plants, but the patient is apt to forget the former suffering and discomfort and condemn the physician who has charged him with a stained or pigmented skin. They never should be used on areas of the skin exposed to sunlight, because it accentuates and prolongs the disfigurement.

When the acute inflammation has subsided, pastes or emulsions are indicated. An excellent watery paste is:

Zinc oxide	30
Talc	30
Glycerin	30
Water	30

The official paste of zinc oxide is popular, but the following are preferred by many:

Zinc oxide	2
Hydrolyzed cornstarch	13
Petrolatum	15
or:	
Solution of aluminum acetate	10
Lanolin	20
Zinc oxide paste	30

Pastes should be used after an antipruritic lotion. However, an emulsion or liniment might replace both. Calamine liniment N. F. VIII or the cuticolored neocalamine liniment N. F. VIII satisfies all requirements. When an antipruritic is needed, phenol or menthol may be added in reduced amounts to avoid irritation due to the prolonged action in the oil. If there is any superficial infection, the following formula is indicated:

Menthol	0.5
Phenol	1.0
Ichthammol	7.5
Zinc oxide	30.0
Olive oil	
Lime water	$\overline{aa}$ *ad.* 250

The use of ointments is the last step in the treatment of acute eruptions of contact dermatitis. Having no evaporation properties, they cause congestion and irritation if applied too soon. When the eruption becomes dry, crusted, desquamated, fissured, or lichenified, a bland ointment such as one of the following may be indicated: white petrolatum, aquaphor, rose water ointment, boric acid ointment, zinc oxide ointment, or the nongreaseless hydrophilic ointment paste, U. S. P. Pastes and ointments should never be applied directly to the skin, but rather on a piece of soft linen. Too vigorous removal of these applications will delay healing and they should be sponged off gently with sterile oil. Three per cent vioform ointment is of value if superficial infection is present. A very useful, soothing ointment is calamine ointment N. F.:

Prepared calamine	17
Yellow wax	4
Wool fat	4
Petrolatum	75

The addition of a small amount of neocalamine will make this ointment skin color.

Tars should never be used in the treatment of the early stages of a contact dermatitis, but they are of great value in persistent pruritic patches of weeks' duration. White's original formula is of great benefit:

Crude coal tar	2
Zinc oxide	2
Cornstarch	15
Petrolatum	15

The newly introduced group of so-called antihistaminic ointments are of value in certain selected cases. Five per cent thephorin ointment has been beneficial in a carefully selected group of persistent dermatitides. Two per cent pyribenzamine cream and 2 per cent histadyl cream are also of value in lichenified patches. However, one must be careful of the occasional sensitization reaction produced by these drugs. It is apparent that even the so-called antihistamines produce allergies in susceptible individuals.

(Downing, J. G., *Post. Med.* **9:** 347, Apr. 1951.)

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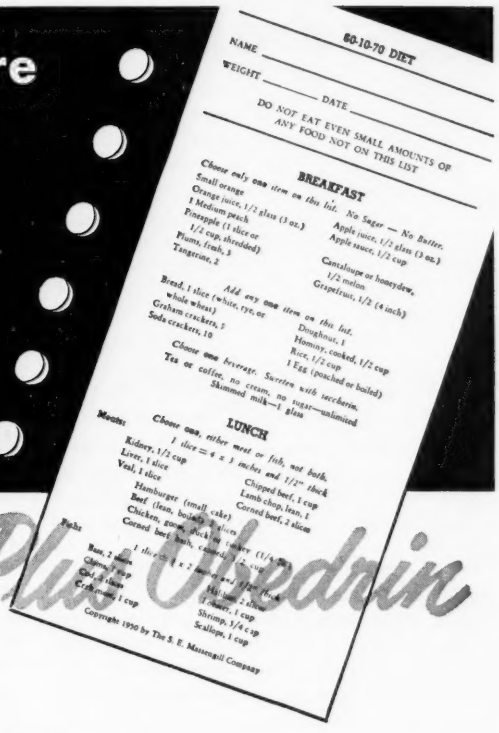

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INFORMATION SERVICE

Members of the American Pharmaceutical Association are invited to submit their professional problems to the Journal, 2215 Constitution Ave., N. W., Washington 7, D. C., giving all pertinent details. Advisory service is provided by the A. Ph. A. library and technical staff and the Journal panel of technical consultants.

PRESERVATIVES FOR COSMETIC CREAMS AND LOTIONS

I am interested in obtaining a list of several commonly used preservatives for cosmetic creams and lotions. I'd like to know, in addition to the sources of supply, the approximate percentages used in these preparations.—J. L. S., Alabama.

Each cosmetic cream or lotion may present a specific problem and a preservative which is satisfactory in one instance may be quite unsatisfactory in another. Many preservatives have been recommended for the inhibition of the growth of microorganisms in cosmetic preparations. Among these are such preservatives as borax 0.9 per cent; acetanilide, 0.3 per cent; cresol, 0.1 per cent; phenol, 0.13 per cent; salicylanilide, 0.025 per cent; thymol, 0.04 per cent; phenylmercuric nitrate, 0.01 to 0.05 per cent.

The most commonly used and the most effective preservatives appear to be the esters of parahydroxybenzoic acid which are used in a ratio of 1 to 750 or less, depending upon the ester used. The three most commonly employed esters are the ethyl-, propyl-, and butyl-parahydroxybenzoates. You should be able to obtain these products from your local wholesaler. If they are not available from that source, small amounts may be purchased from the R. F. Revson Company, 144 West 18th St , New York 11, N. Y.

METHADONE HYDROCHLORIDE

Could you give me the makeup of Dolophine, its action, and dosage?—Dr. I. S., New Rochelle, N. Y.

"Dolophine" is a product of Eli Lilly and Company, Indianapolis, Ind. This product is also known by the N. N. R. title "Methadone Hydrochloride," and by the Winthrop-Stearns trademark name "Adanon Hydrochloride." Chemically it is *d,l*-6-Dimethylamino-4,4-diphenyl-3-heptanone hydrochloride. According to *New and Nonofficial Remedies* 1950, the actions and usage and dosage are as follows:

"*Actions and Uses*—The term methadone refers to a mixture of the *d* and *l* isomers. The actions of methadone hydrochloride are similar to those of morphine. The *l* isomer is five times as potent as is the *d* isomer. Except when taken orally, it causes less nausea and emesis than morphine and, in minimal analgesic doses causes less respiratory depression. Because it is less sedative, methadone hydrochloride is inferior to morphine as a pre-anesthetic agent. The duration of its action is longer than that of morphine, and it is better absorbed when administered orally.

"Methadone hydrochloride induces addiction and, after long administration, may cause withdrawal symptoms, but they appear more slowly and are less severe than those caused by similar administration of morphine. Methadone hydrochloride may be substituted for morphine to prevent or alleviate morphine withdrawal symptoms.

"Methadone hydrochloride may be used as an analgesic for moderate and severe pain. Its most important use is in the oral treatment of pain in cancer patients. It is not recommended for conditions in which sedative effects are important. It is also antitussive, but for this purpose codeine is preferred because it has less addiction liability.

"*Dosage*—Adults, 2.5 to 15 mg. depending on the intensity and etiology of the pain. The usual dose is 7.5 mg. orally every three to four hours.

"When necessary, the drug may be administered parenterally either intramuscularly or subcutaneously, but because of its slight local irritant effects it should not be administered by either route in doses larger than 2.5 to 10 mg. It should not be given intravenously.

CONVERTING RAW SUGAR INTO ALCOHOL

Please send me information on the type of yeast that should be used to convert "raw sugar" into alcohol.—L. B. M., Guatamala

The United States Dispensatory, 24th Edition, outlines the manufacture of alcohol as follows:

"Approximately 90 per cent of the alcohol produced in the United States utilizes blackstrap molasses as the starting material. Manufacture of alcohol from molasses is much simpler than from grain in that the milling, cooking and malting (by which saccharification of starch is accomplished) are omitted; molasses does not require an initial hydrolysis as it contains fermentable sugars. The process consists of the following steps: (1) weighing of the molasses, (2) mixing with water, (3) sterilizing, to prevent contamination with organisms which may influence the course of the fermentation, (4) cooling or diluting with cold water, (5) charging the fermenters with the dilute molasses, (6) addition of pure yeast culture (generally *Saccharomyces cerevisiae*), sulfuric acid (to invert the sucrose in the molasses) and yeast food (ammonium sulfate), (7) fermentation for 36 to 48 hours, (8) distillation of the 'beer,' which contains 6.5 to 8.5 per cent by volume of alcohol, to yield a distillate containing 95 per cent by volume of alcohol."

COMPOUNDING PROCEDURE

What is the proper procedure for compounding the following prescription?

Acetylsalicylic Acid	*25%*
Sodium benzoate	*1*
Eugenol	*2*
Balsam of Peru	*10*
Paraffin	*16*
Anhydrous lanolin	*46*

Mix enough to make $^{1}/_{2}$ pound

—P. D. C., Waterbury, Conn.

This prescription is similar to Compound Acetylsalicylic Acid Paste N. F. VIII. It can be compounded as follows:

Melt the paraffin on a water bath, add the anhydrous lanolin, heat the mixture gently until it liquefies, and then stir it until it congeals. Incorporate the eugenol and the balsam of Peru all at once, in about one-third of the congealed base, and incorporate the acetylsalicylic acid and sodium benzoate in the remainder. Thoroughly mix the two portions together.

GLYCERIN AVAILABILITY

In our hospital, we have been using alkaline antiseptic solution for mouthwash, as our patients are mostly children. However, this contains glycerin which is hard to obtain. Could you suggest a substitute, and also, what is being done about elixir terpin hydrate in this regard?—F. M. M., Philadelphia, Pa.

During an acute shortage of glycerin in 1943 provision was made for the reduction of the glycerin in alkaline aromatic solution from 100 cc. per liter to 50 cc. per liter. The resulting product appeared to be quite satisfactory and entirely acceptable to those who used it. Perhaps, for use in the hospital, you might care to try reducing the glycerin in accordance with the provision of 1943 and thus save half of the glycerin required for this preparation.

As far as other preparations are concerned that might serve satisfactorily as a replacement, we refer you to a large number of mouthwashes listed in the Third Edition of the Pharmaceutical Recipe Book, copy of which you no doubt have or can obtain from one of the Pharmacy College Libraries in Philadelphia.

All efforts to develop a satisfactory replacement for glycerin in terpin hydrate elixir have thus far been quite unsatisfactory. We have attempted to replace glycerin with propylene glycol and with sorbitol but neither yields a satisfactory product.

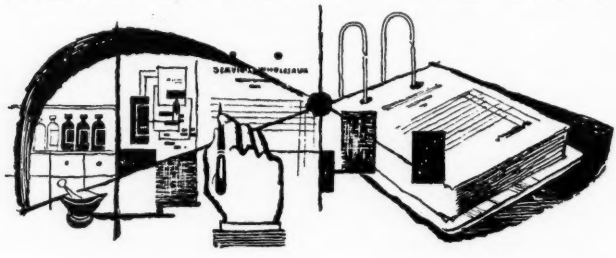
CHLOROMYCETIN ASSAY

Could you provide me with methods for the assay of Chloromycetin in various combinations, such as propylene glycol solution and a solution of this antibiotic in Benylin expectorant?—J. M., Long Beach, Calif.

We have had no experience with the assays of antibiotics. Because of our inexperience with chloramphenicol assay methods we called the Antibiotic Division of the Food and Drug Administration. From the information obtained from that source, there are apparently two standard methods of assay; one a biological assay and the other a spectrophotometric assay. The spectrophotometric assay is described in the fourteenth revision of the U. S. P., page 130.

Copies of the procedures for both the biological assay and the spectrophotometric method may be obtained upon request to the Antibiotic Division, Food and Drug Administration, Federal Security Agency, Washington 25, D. C.

BALANCED BUYING



Pharmacists must be alert to the times, be ever ready to conform to current medical opinion. The free and open competition that now prevails in the drug industry makes this task extremely difficult. Countless brands of the same or similar items, many with little promise of continued demand, are under constant promotion.

The best solution is to buy a new item in the smallest package available, one only, through the wholesale distributor. Buy in larger quantities only after demand is assured. It is well, also, to concentrate as nearly as possible on the products of manufacturers you know. The Lilly Label is a respected symbol of high ideals and reliable service.

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MAY, 1951

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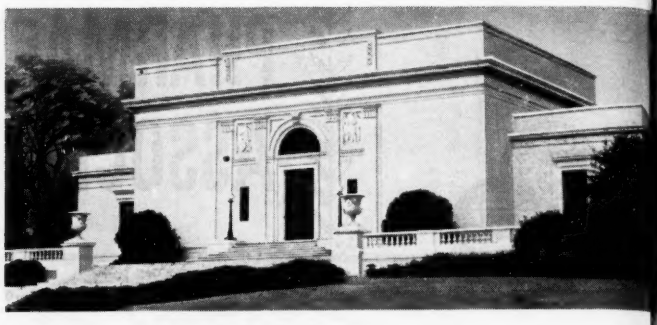


by Robert P. Fischelis, *Secretary*
AMERICAN PHARMACEUTICAL ASSOCIATION

Hearings on the Durham Bill

From May 1 to 5, inclusive, there appeared before the Committee on Interstate and Foreign Commerce of the House of Representatives in rapid succession representatives of the Federal Security Agency, the Food and Drug Administration, the National Association of Retail Druggists, the American Pharmaceutical Manufacturers Association, the American Pharmaceutical Association, the American Drug Manufacturers Association, the Proprietary Association of America, the U. S. Circuit Court of Appeals, representatives of individual pharmaceutical manufacturers and others. The subject of the hearings was the third Durham bill, known as H.R. 3298, which seeks to amend the Federal Food, Drug and Cosmetic Act to permit prescriptions to be received by telephone and to set up a procedure for distinguishing drugs which may be sold without prescription from drugs which may be dispensed by pharmacists only on the prescription of a practitioner licensed to prescribe drugs and medicines.

As is now well known, this proposed legislation which started with the first Durham bill, presented to the 80th Congress and continued with the second unsatisfactory Durham bill presented to the 81st Congress, stems from the effort to overcome the confusing effect of the interpretation placed upon the present Food, Drug and Cosmetic Act with reference to the filling and refilling of prescriptions.

What the pharmacists of the United States have been asking for is an official interpretation of the present law or, if necessary, amendment of the present law, to permit continuance of the established custom of refilling authorized prescriptions without having such prescriptions presented for renewal in writing and to permit physicians to telephone prescriptions in the first instance, as has been customary over the years without Federal interference.

Testimony at the hearings revealed that in the attempt to provide for the continuance of the present physician-pharmacist-patient relationship through legislation, the endorsement of the Food and Drug Administration carried with it a bid for additional power over the practice of medicine and pharmacy. The power requested is to enable the Commissioner of Food and Drugs to determine, after public hearing, whether a drug can be labeled with adequate directions for self-medication or whether it is sufficiently potent or dangerous in character to require its use to be confined to medical supervision by way of prescription. The authority to determine this classification of drugs now lies with the manufacturer who produces the drug and who may label it for prescription dispensing only, if in his judgment it is a drug too dangerous or potent for use without medical supervision.

The testimony brought out that there is no special need for such authority on the part of the Administration since it now has the power to proceed against a manufac-

turer who markets a drug for self-medication, if it is in fact dangerous to health or can be used properly only under medical supervision.

A further bid for power on the part of the Administration is the provision of the bill which deals with the determination of the effectiveness of a drug.

As a sop to the drug industry, there is included in the bill a provision for a court review which was strenuously opposed at the hearing by a judge of the Circuit Court of Appeals because of the unusual form provided for such an appeal. The case for the AMERICAN PHARMACEUTICAL ASSOCIATION, which has been endeavoring to obtain an administrative ruling under the present act to cover this matter, was presented by Secretary Robert P. Fischelis by authority of the Council of the A. PH. A. which had given consideration to this problem at its meeting in Washington on April 26 and 27.

As is noted in the Report of the Council on another page of this issue, Chairman Schaefer of the Committee on Legislation, reported in detail on the provisions of the third Durham bill, after which the Council decided to emphasize the following unsatisfactory provisions in a prepared statement to the Committee:

1. H.R. 3298 (the third Durham bill) does not permit refilling of prescriptions calling for drugs which bear the prescription legend unless authorized personally by the physician.
2. H.R. 3298 substitutes the judgment of the F. D. A. in all instances for the judgment of producers of drugs and practitioners of medicine and pharmacy, thus regimenting the practice of pharmacy and medicine beyond any public health requirement.
3. No one can tell, until after the passage of H.R. 3298 and after protracted hearings to be conducted by the Commissioner of Food and Drugs, which of some 30,000 drugs will be designated as prescription products and which may be sold over the counter. The bill does not list any drugs for either classification, so that those who are asked to accept this legislation in its present form are without any information as to the status of the drugs which they will be called upon to dispense.

Other testimony presented on behalf of the ASSOCIATION pointed out the difficulties which have plagued law-abiding practicing pharmacists since the Commissioner of Food and Drugs issued his interpretation of the Law, to the effect that no prescription can be refilled. Objection was raised to requiring written confirmation of telephoned prescriptions within 72 hours. Although such a requirement does not appear in H.R. 3298, it did appear in the second Durham bill and both the Federal Security Administrator and representatives of the Food and Drug Administration urged its insertion in H.R. 3298. The testimony of the A. PH. A. cited examples of what is meant by depriving practicing pharmacists and physicians of the right to exercise their professional judgment. This became necessary because of earlier testimony on the part of proponents of H.R. 3298 picturing pharmacists as a helpless lot of dispensers who have to be regimented by a government agency in order to carry out the professional duties which they have been licensed by the several states to carry out on their own initiative.

A careful analysis of the testimony at the hearing and consideration of the attitude and questions of the members of the Committee indicates quite clearly that before any consideration is given to the third Durham bill (H.R. 3298), it will be amended considerably. While this bill is an improvement over the second Durham bill, it requires further changing in order to meet the needs of practicing pharmacists.

The AMERICAN PHARMACEUTICAL ASSOCIATION has endeavored by democratic procedures to obtain an official interpretation of the existing law in order to be able to advise the pharmacists of the United States as to their rights and privileges with respect to the filling and refilling of prescriptions. Such an official ruling is in the making and will serve to clarify the situation.

If legislation is necessary to clarify the issue, it should be of such a nature as to leave no room for doubt regarding the exercise of professional judgment on the part of the medical and pharmaceutical professions.

(Continued on Page 311)

chloroquine anti malaria

*by Dr. Justus B. Rice**

In the war-forced search for an antimalarial replacement for quinine, Chloroquine won out over all others. Now, alone and in combination with Milibis, it shows great hope in the homefront—as well as the battlefront—fight against amebiasis.

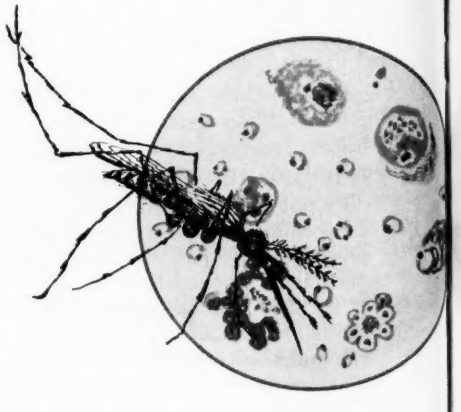
UNQUESTIONABLY, the successful battle against malaria in the South Pacific during World War II contributed immeasurably to total victory in the war. With the advent of the war in Korea, a similar battle existed, but fortunately pharmaceutical research had made even greater strides in its search, and development of, a new anti-malarial that far surpassed the techniques of World War II. This new discovery is chloroquine. In addition to its vital use against malaria, it is now being indicated in the United States for extra-intestinal amebiasis.

First synthesized at the Sterling-Winthrop Research Institute in 1944, it is commercially known as Aralen. Chemically, it is 7-chloro-4-(4-diethylamino-1-ethylbutylamino) quinoline. Production capacity has tripled since Korea, and by July, the present annual production rate of 100,000,000 tablets is expected to be increased nearly twofold. For oral administration, it is supplied in the form of a diphosphate, a white crystalline powder readily soluble in water at an acid pH level. It comes in tablets of 0.25 and 0.5 Gm.

End to the "Little Yellow Pills"

Few indeed are the pharmacists in practice today that do not recall how the profession rallied behind the war effort in the Quinine Pool of the early years of World War II. When the Japanese first overran the Dutch East Indies, source of 95 per cent of the world's quinine, the Allied Forces lost their great natural anti-malarial. For three hundred years quinine had been traditionally accepted for this purpose and with its loss, the American armies in the South Pacific faced, in the threat of malaria, a far greater enemy than the guns and tanks of Japan. It was then that the pharmacists scoured their shelves and basements for all products containing quinine and contributed them to the war effort. At the same time, research chemists the nation over searched unceasingly for some other drug that would replace the anti-malarial qualities of the non-available quinine. Fortunately, atabrine was synthesized from domestically available materials and became "the little yellow pill" that saved many lives despite its bitter taste.

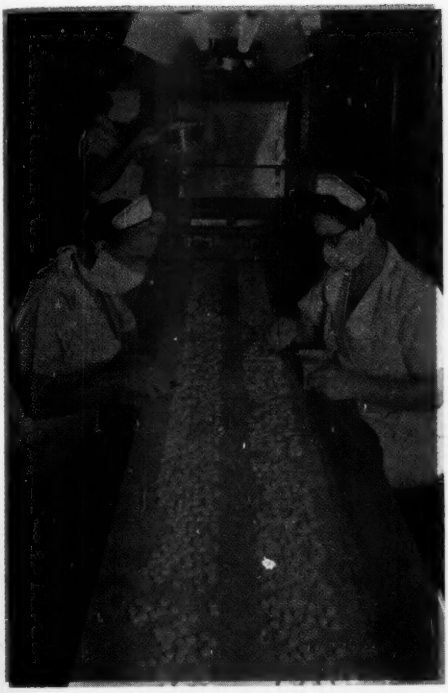
Although in the entire military forces of the South Pacific it would be almost impossible to find a man who enjoyed his daily tablet of atabrine, this anti-malarial was produced at a peak rate of three and one-half billion in 1944.



Atabrine, despite its successes, had many faults. It is there that chloroquine gains its greatest acceptance. Among the advantages of chloroquine over atabrine are: (1) only one tablet a week (0.5 Gm.) is necessary; (2) it doesn't taste bitter; and (3) it doesn't cause discoloration of the skin. These facts have been evidenced in its use in Korea, since men began to pour into that battle area.

* Director of Medical Research Winthrop-Stearns, Inc., New York, New York.

Pharmacists everywhere remember the World War II Quinine Pool



Each tablet receives careful inspection before shipment

Disease Ridden Korea

Korea is said to be one of the worst regions in the world, as far as disease is concerned. In addition to malaria, cholera, typhus, typhoid fever, and amebiasis are prevalent there. However, the Army's technique in suppressing them, illustrated by the anti-malarial procedure, has proved to be effective.

Chloroquine tablets flow to the front along with the food supplies. If a G.I. is up front, his line officer supervises the taking of the weekly tablet. Otherwise, a "medic" handles the "check list," to see that nobody "breaks discipline." The incidence of malaria among our troops is so low as to suggest that most of the cases occur when a platoon or other combat group has "broken discipline." This is far less common than was the case with the bitter-tasting little yellow pill, Army officers point out.

In any case, success in suppressing the malarial parasite with chloroquine, first tried and found effective under combat conditions by the Army last summer in Korea, offers a striking contrast to the dreadful incidence of the disease throughout the world. Malaria is the world's most prevalent infectious disease, with estimates of its incidence ranging up to 800,000,000 cases a year, and approximately 3,000,000 deaths.

Chloroquine's History

Chloroquine is not a new development, in the sense that its history dates to events long before the Korean conflict. During World War II, when the negative qualities of atabrine were recognized by everyone, American pharmaceutical

(Continued on Page 278)

Constant care in preparation insures efficacy of finished Chloroquine tablet

Chloroquine

• • • • • • • • • • • • • • • • • • *from page 277*

laboratories engaged in intensive research for a better anti-malarial. Nearly 100 new preparations were produced by the Sterling-Winthrop Research Institute, and all were turned over to the Board of the Coordination of Malarial Studies of the U. S. Government's National Research Council. Chloroquine, later to be called Aralen, was among them.

Since that time, 1944, chloroquine has been used in an extraordinarily broad range of clinical investigations. It has checked malaria among school tots in Java; among workers in villages in the Belgian Congo; among the peoples of the Middle East. After comprehensive tests, both the Army and the Veterans Administration placed it on their medical supply tables.

Thus, it came to Korea not as a new, untried, hastily contrived anti-malarial, but as a new drug tested for nearly six years.

Its Non-Military Role in America

While the extensive clinical investigations were demonstrating its effectiveness in suppressing malaria, many other reports of its utility in treatment of extra-intestinal amebiasis in the United States also were appearing. Amebiasis (all forms) has an incidence here estimated at from 5 to 10 per cent.

Its greater efficacy in amebic infections of the liver rests in part on the following pharmacologic properties: (1) its extensive localization in the liver, some 500 times its plasma concentration, was discovered; (2) its threefold to fourfold less degree of localization within the intestinal walls was brought out; and (3) its almost complete absorption from the gastro-intestinal tract, only 8 per cent of the daily dose being excreted in the feces, so that the contents of the intestinal lumen, especially the colon, contain a small concentration of drug; (4) chronic toxicity studies in human beings have not disclosed any serious toxic symptoms or signs.

Indeed, there have been striking clinical illustrations of the effectiveness of chloroquine in the treatment of amebic hepatitis. Murgatroyd and Kent reported on the treatment of refractory amebic liver abscess with chloroquine, in *Transactions of the Royal Society of Tropical Medicine and Hygiene.*[1] They described a case of amebic liver abscess which was refractory to surgical treatment and to repeated courses of emetine, penicillin, streptomycin and diodoquin during a four-month period. Chloroquine therapy was then tried, with a dosage of 0.25 Gm. three times a day for 19 days. By the fifth day, no amebae were found in the pus draining from the abscess wound, and by the twelfth day, all discharge ceased and the wound was healed. A maintenance dose of 0.25 Gm. twice a week was then prescribed for three months following the patients's discharge from the hospital. No relapse occurred, they reported.

Dr. Neal J. Conan of Columbia University, frequently cited for his work with chloroquine, described his method of treatment of hepatic amebiasis in the *American Journal of Medicine.*[2] He used chloroquine in seven cases. Dr. Conan also reported on two cases of pleuro-hepatitic amebiasis, which involves both liver abscess and lung complications. Chloroquine was found effective for draining and closed abscesses, and the patients' temperatures fell promptly, although other preparations had proved unsuccessful. It was reported that "Chloroquine has no serious toxicity."

America became "amebiasis conscious" during the Chicago World's Fair, in 1933, when an epidemic of the infection developed, affecting at least 1400 people. Later, visitors to the Fair who had contracted the "amebic dysentery"

Known in the Army as chloroquine, this new anti-malarial is also known, commercially, as Aralen.

It is one of nearly 100 anti-malarials produced toward the end of World War II as a replacement for atabrine.

Chloroquine has broader medical range than atabrine, and none of the bitter taste or side effects of its predecessor.

It has been used successfully in the treatment of extra-intestinal amebiasis in the U. S.

Chloroquine, combined with another new product, milibis, holds great promise for the greater treatment of amebiasis, since it combats the disease when it exists in organs other than the intestine, while milibis combats the intestinal form.

[1] Vol. 42, p. 15 (July 1948).

[2] Vol. 6, p. 309 (March 1949).

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DR. HUGO H. SCHAEFER AWARDED REMINGTON MEDAL FOR 1951

Pharmacy's Highest Award will be presented to Dr. Schaefer at ceremonies in New York in the fall.

DR. HUGO H. SCHAEFER, Treasurer of the AMERICAN PHARMACEUTICAL ASSOCIATION, Dean of the Brooklyn College of Pharmacy, and widely known as an officer of many pharmaceutical organizations, has been named recipient of the 1951 Remington Honor Medal, Pharmacy's highest honor. The medal, given by the ASSOCIATION'S New York Branch, will be presented at a dinner in New York in the fall. Annually, the Remington Medal is awarded to the individual who has done most for American Pharmacy in the previous year, or whose continuing contributions to the advancement of the profession have been outstanding.

An interesting sidelight to the award this year is the fact that it was Dr. Schaefer himself, in 1918, who suggested that the award be created to honor Joseph P. Remington, who had died January 1, of that year.

The past presidents of the AMERICAN PHARMACEUTICAL ASSOCIATION serve as the jury of award. In giving their reasons for the award to Dr. Schaefer the jury referred to his intense unselfish service to the profession over the past 30 years. They also cited his diplomacy in uniting the efforts of various groups engaged in controversies over methods when all are working for the same principle; his leadership in the development of sound educational procedures in American Pharmacy; his outstanding contributions to the work of the U. S. P. and N. F. revision; his very helpful contributions to the solution of problems involving food and drug legislation and his public services as chemist to the New York Board of Pharmacy and adviser to health agencies and to the War Production Board in World War II.

Dr. Schaefer, born in Brooklyn July 3, 1891, has served as Dean of Brooklyn College of Pharmacy of Long Island University since 1937. In addition to that activity, he has been an active member of many organizations and committees important to pharmacy and the pharmaceutical industry. He is president of the American Association of Colleges of Pharmacy and a member of the Committee on Revision of the United States Pharmacopeia and the Committee on the National Formulary. In these two capacities he has made invaluable contributions to drug standardization, regulation, and control.

His interest in pharmacy and in the growth of the profession is a natural outgrowth of his heritage. His father, George Ludwig Schaefer, studied pharmacy at the University of Bonn and later obtained his doctorate at the University of Berlin. He came to America in 1884 and became vice-president and technical director of the New York Quinine and Chemical Works. Many years later his son, Hugo, joined him in that organization, after receiving his doctorate in pharmacy in 1913 from the New York College of Pharmacy, Columbia University.

After two years with this chemical organization, he entered pharmaceutical education at Columbia University as an instructor in the Department of Chemistry. By 1926 he had risen to an associate professorship. In addition to this work at Columbia, he was the author of many papers and several textbooks and had taken a two-year leave of absence for graduate study at the University of Berne, where he obtained his Ph.D.

Dr. Schaefer is a recognized authority on pharmaceutical law and problems arising under state and federal Food, Drug, and Cosmetic legislation. His influence as an educator is reflected in the activities of thousands of graduates who have passed through his classes at Columbia and Brooklyn over the past thirty years. It was for his human understanding, as well as his professional contributions, that the Jury of Award selected him as the Remington Medalist for 1951.

PHARMACEUTICAL EDUCATION'S GREAT YEARS

1900 TO 1951

by Dr. Hugo H. Schaefer

President, American Association of Colleges of Pharmacy

In the half century within the memory of many of us, educators, and pharmacists have combined in a ceaseless effort to improve professional training and standards. Dr. Schaefer first reviewed this history at the 50th anniversary of Temple University School of Pharmacy.

PASSAGE of time is completely beyond our control and therefore in itself does not warrant any praise or rejoicement. In fact, disappearing years are lost years unless they leave their mark of accomplishment on the road of progress. A half-century milestone gives us an opportunity to reflect, to look back, and to appraise. It is a dividing line in a chronological table and its importance can only be measured by evaluating the events which preceded it and making the best use of such an evaluation in governing our thoughts and actions in coming years. The future is a continuation of the past; the present, a pause for both reflection and planning.

At the beginning of the present century there were 49 colleges of pharmacy in the United States of which all but three are still in existence. With but few exceptions, all of these schools offered two-year courses of instruction leading to a Ph.G. degree. Attendance was limited to three days each week so as to enable students to work in pharmacies during the remaining time.

Fifty years ago the preceptor-apprentice system of training pharmacists prevailed and completion of practical experience over a specified period of time was the general requirement for admission to state board examinations. Anyone seeking a career in pharmacy obtained a position as errand boy in a pharmacy and if after a few years of general service he showed sufficient interest, diligence, and intelligence to deserve encouragement, the employer would serve as his preceptor and try to give him the necessary training to pass the state board examinations and to practice his profession. In many states no state board examinations were required and registration could be obtained merely by submitting proof of the required period of experience. In no state was college graduation obligatory.

THE A. A. C. P. CONTRIBUTION

The great progress which has been made during the past fifty years in pharmaceutical education may be largely credited to the efforts of the American Association of Colleges of Pharmacy Founded in 1900, under the name of The American Conference of Pharmaceutical Faculties, its purpose as stated in its constitution was "to promote the interests of pharmaceutical education."

Progress was slow in those early years and it was not until 1904 that specific minimum qualifications for member colleges were adopted. These consisted of grammar school education for admission to college and the completion of 1100 hours of instruction over a period of not less than 40 weeks for graduation. These requirements were, of course, extremely low. Fortunately many colleges had higher standards and were actively demanding that further steps be taken by the Conference to raise the general level of pharmaceutical education.

Thus in 1906 completion of one year of high school work or its equivalent was required for admission and the college time was increased to not less than 50 weeks to be given in a period of two years. These requirements were to become effective in 1908 but it was not until 1910 that they became mandatory in all member colleges.

In 1910, also, the National Syllabus Committee published its first Pharmaceutical Syllabus which outlined a minimum course of study for the guidance of the colleges. This committee consisted of representatives of several pharmaceutical organizations and functioned throughout many years. The syllabus was revised periodically to meet changing conditions and exerted a potent influence upon the progress of pharmaceutical education.

HIGH SCHOOL REQUIREMENT STIFFENED

In 1920 the one-year high school admission requirement was changed to two years and in 1923 full high school graduation became the rule. So also in 1922 it was voted to raise the minimum number of hours of study required for graduation from 1,200 to 1,500 and the length of each school year from 25 weeks to 30 weeks. In 1925 a three-year course of at least 30 weeks embracing 720 hours of work each year was adopted and became the minimum standard.

In the early years of the present century many of the pharmacy college courses were conducted as evening schools. From 1904 on, most of the schools offered daytime courses scheduled over three days per week. It was not until 1932 that the present four-year course with a minimum of five days of instruction per week was made a general requirement of the Association. This course originally provided a minimum of 3,000 hours of instruction which however, was increased to 3,200 hours in 1932 and this provision is still in effect today.

This outline of the progress of pharmaceutical education in terms of hours, days, and years of instruction does not completely portray the great advances which were made during the last half century. At the beginning of that period very few states had any requirements for the practice of pharmacy other than a year or two of experience. Very few of these early practitioners ever attended college. There were no standards whatsoever for the colleges themselves and many of them were private institutions conducted for financial profit. From this complete absence of any formal educational requirements the passing years have seen the gradual change through an interim period of trade school status to our present high level of recognized university training comparable to that of the other health professions. The march of progress is still going on. There is active discussion at the present time of requiring the completion of a two-year prepharmacy college course for admission to schools of pharmacy and thus increasing the total college attendance time from the present four years to five or six years. Several of our colleges have already adopted such standards.

While these advances in pharmaceutical education can be largely attributed to the aggressive and forward-looking leadership of the American Association of Colleges of Pharmacy yet relatively little could have been accomplished on a National basis were it not for the sympathetic

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". . . One of the State Educational Departments has recently required that registration of a college of pharmacy is dependent upon the number of hours devoted to instruction. . . . This appears to be a bald and bold attempt to establish time as a criterion and not quality or results. . . . This meaningless and false standard for deciding the registration of a school of pharmacy was blindly adopted and followed by a number of the State Boards of Pharmacy. It is surprising how self-respecting men in quasi-official positions can hastily and thoughtlessly accept such a yoke of dictation. . . ."

The fight to improve pharmaceutical education was not won easily, as witness this extract from an address before the 1910 convention of the ASSOCIATION.

MAJOR STEPS

in the fifty year progress of pharmaceutical education

In 1900, the preceptor system applied in pharmacy, permitting any boy or girl who showed an interest to enter the profession after experience requirements were met.

The American Association of Colleges of Pharmacy is credited with making the first steps toward better educational requirements.

In 1910, the issuance of the first Pharmaceutical Syllabus outlined a minimum course of study for the guidance of the colleges. Revised periodically, this syllabus exerted a potent influence on pharmaceutical education.

Active cooperation with educators by the National Association of Boards of Pharmacy was a key factor in professional growth.

The American Council on Pharmaceutical Education, through its accreditation, brought uniformity among colleges.

The American Foundation for Pharmaceutical Education, through financial support, guaranteed continuance of many colleges during World War II, and contributed largely to the Pharmaceutical Survey, which pointed the way to the 50 years ahead.

Pharmaceutical Education

• • • • • • • • • • • • *from page 281*

and active cooperation of the National Association of Boards of Pharmacy. It was only by making graduation from standardized college courses a prerequisite to state board examinations and to licensure that such a program could become fully effective and result in the elimination of those schools which failed to meet their proper responsibilities. The first prerequisite law was passed in New York State in 1904, and provided that only college of pharmacy graduates were eligible to state board examinations and to eventual licensure. Pennsylvania followed in 1906 and thus became the second state in the Union with such a requirement. By 1921, seventeen states had passed prerequisite laws but it is only recently that such laws have been enacted in all our states. The present laws in most of our states specify that only graduates of accredited colleges of pharmacy are eligible for admission to the board examination and thus we now enjoy a degree of uniformity of educational standards which have made it possible for a reciprocity procedure for licensure in all but two of our states. Under this procedure licensed pharmacists from one state may obtain a license in another without taking any further examinations. It should be added that the two states which do not offer reciprocity privileges, namely California and New York, have standards fully equivalent to those of the other states but their laws make it mandatory for all candidates for licensure to pass the examinations in those states regardless of whether they are licensed in other states or not.

THE N. A. B. P. CONTRIBUTION

The National Association of Boards of Pharmacy deserves our full commendation not only for the development and administration of the reciprocal licensing procedures but also for its unfailing support of all measures and policies leading to higher educational and licensure standards. It is this body which in a large measure has been responsible for making the higher educational standards adopted by the colleges, the minimum legal requirements for the practice of pharmacy.

Throughout the past fifty years this problem of the standardization of pharmaceutical education on a high and reputable basis was a continuing problem. It was obviously desirable that graduates of one college of pharmacy complete courses

comparable to those graduating from other institutions. At the beginning of the present century there were no standards for membership in the American Association of Colleges of Pharamcy or the American Conference of Pharmaceutical Faculties as it was then called, but 1904 saw the beginning of the adoption of requirements for membership which have kept pace with the advancing standards previously outlined in this paper. Only colleges which met these required standards could hold membership in the Association, and thus call themselves "member colleges" or "recognized" colleges of pharmacy. These terms acquired a special significance since many states permitted only graduates of such schools to take their state board examinations. It therefore became necessary for the college association to inspect its member colleges as well as those seeking admission in order to assure compliance with its requirements.

CREATION OF THE A. C. P. E.

As standards advanced this became increasingly difficult since it involved the expenditure of substantial sums of money and took up the time of inspection committees to an inordinate degree. Therefore in 1932 the American Council on Pharmaceutical Education was established for the purpose of assuming responsibility for the accreditation of colleges of pharmacy. Minimum standards for approval were established and all colleges were inspected by committees during the succeeding years. The first list of accredited colleges was published in 1940 and included 54 institutions. The Council has now become the national agency for the accrediting of colleges and schools of pharmacy and is actively supported by the American Association of Colleges of Pharmacy, the National Association of Boards of Pharmacy, and the AMERICAN PHARMACEUTICAL ASSOCIATION.

THE FOUNDATION SUPPORT

A wide recognition of the need for private financial support of our educational institutions resulted in 1942 in the establishment of the American Foundation for Pharmaceutical Education. This institution was sponsored by all national organizations of the drug industry for the following stated purposes:

(*a*) To uphold and improve pharmaceutical education by aiding colleges of pharmacy and students therein.

(*b*) To aid in the creation of sources of unbiased and authoritative investigation and experimentation of pharmacutical problems.

(*c*) To assist in the selection of important research problems and to provide that the investigations be properly financed, and to insure as far as possible that they be carried out by competent investigators under the supervision of recognized scientific authorities.

The Foundation has succeeded in collecting many hundreds of thousands of dollars. During the last World War it gave direct help to needy colleges and thus aided them in successfully meeting the critical financial problems of that period. The Foundation is today the greatest single factor in the encouragement of graduate work and research studies in pharmaceutical problems. It has granted many hundreds of graduate scholarships and the recipients of these awards will be a potent factor in the future development of pharmaceutical education and research.

The Foundation by an initial grant of almost $100,000 also made it possible to inaugurate the Pharmaceutical Survey. This represented the assembling and unbiased study of the critical facts relating to pharmaceutical education, practices, services, and trade. Further substantial grants were made before this monumental task was completed and the published reports and findings have already resulted in many constructive measures of great benefit to professional pharmacy.

The present evaluation and classification of colleges of pharmacy under the direction of the American Council on Pharmaceutical Education is made possible largely through the financial support of the Foundation. Various activities of the American Association of Colleges of Pharmacy also receive substantial support in the form of cash grants from that organization. The Foundation through the generosity of its contributors and the wisdom and farsightedness of its leaders has been and we hope will continue to be a potent influence in the future of our profession.

We now stand on the threshold of a second half century, but I have a fervent faith that the challenges and problems of the coming years will be successfully met by the profession and that we are entering into an era of further progress far beyond anything which we can now visualize.

This all too brief outline of the progress of pharmaceutical education and prestige clearly shows that the first half century of existence and growth of the Temple University College of Pharmacy has also seen pharmacy acquire the status of a fully recognized profession.

Aureomycin suppositories

Studies by the Laboratory of the AMERICAN PHARMACEUTICAL ASSOCIATION indicate fundamental compounding limitations

REQUESTS by physicians for aureomycin in the dosage form of suppositories offer pharmacists an opportunity to practice their professional art. In this particular instance, the pharmacist must have certain information before he can intelligently apply his compounding technique. The laboratory of the AMERICAN PHARMACEUTICAL ASSOCIATION has studied the preparation of these suppositories in order to supply this information to the practicing pharmacists.

The first circulated report of the extemporaneous preparation of suppositories containing aureomycin hydrochloride referred to the use of glycerinated gelatin base. In view of that, we prepared and tested suppositories prepared with glycerinated gelatin and glycerin according to the U. S. P. procedure. Our work brought out several objections to this procedure.

Our plastic mold yields suppositories that weigh about 2.35 Gm. In order to prepare 12 glycerinated gelatin suppositories each to contain 100 mg. of aureomycin hydrochloride, enough material was used to account for 14 suppositories. This was necessary because only 12 suppositories could be poured from that amount of the heated mass. Obviously, the waste of 200 mg. of aureomycin was both expensive and impractical.

The second objection to this technique was in loss of antibacterial activity due to heat. In our studies, we found that aureomycin hydrochloride loses about 30% of its antibacterial activity when heated in the glycerinated gelatin mixture at 100° C. for 10 to 15 minutes. This is just long enough to thoroughly incorporate the glycerin suspension of the drug and pour the melted mass into a mold. Further study showed that the completed suppositories, if kept in a refrigerator, will remain relatively stable for a period of several weeks, which is longer than would be necessary for one course of treatment in the usual conditions for which the aureomycin is indicated. However, the original loss of 30% of the antibacterial activity, at the time of preparation, is too great.

Recognizing those two objections, we considered other methods. We mention them here, with our observations, because in all probability they represent techniques evolved by pharmacists throughout the country.

The suggestion that the glycerin suspension might be added to the melted glycerinated gelatin in the mold is not practicable. Other suggestions included the use of the commercial capsule as a suppository; packing the commercial capsule in a larger capsule with lactose and using the larger capsule as a suppository; piercing a hole in the commercial capsule and placing the capsule in a suppository mold with melted glycerinated gelatin. In these latter dosage forms the aureomycin hydrochloride is not dispersed. When the surrounding material dissolves or disintegrates, the bulk of the drug comes in contact with a small surface of the colon. Aureomycin hydrochloride gives an acid reaction which might add irritation of the colon to the resulting actions.

Recommended Suppository

In view of the variety of objections to all previously tested methods, we turned to a study of different vehicles for the combination. If the physician desires the aureomycin hydrochloride to be dispensed in the form of suppositories, we recommend the use of theobroma oil as the vehicle. Use grated theobroma oil and incorporate the drug at room temperature or in a chilled mortar. Roll a pipe and shape bullet suppositories by hand. If the fusion process must be used, do not allow the temperature to exceed 45–50° C.

This product, if kept in a refrigerator, will limit compounding deviation caused by loss of antibacterial activity and will assure the physician that the patient will receive the prescribed dosage of aureomycin hydrochloride.

NEW PRESCRIPTION PRODUCTS

This monthly listing of new prescription products is designed for easy insertion in a ring binder. Simply lift out the eight pages, punch holes where marked, and slip into an 8½ x 11 binder. A continuing six month index appears on the sixth and seventh pages for quick reference. Manufacturers are urged to send their new product information to the Executive Editor, AMERICAN PHARMACEUTICAL ASSOCIATION, *2215 Constitution Avenue, N.W., Washington, D.C., for inclusion in this free copyrighted editorial service.*

ACTH "National"

Description: A colloidal solution ready to inject. Prepared by a special process to insure stability; refrigeration is not required.

Indications: Certain collagen diseases, metabolic diseases, nephrotic syndrome, ulcerative colitis, hypersensitivities, and diseases of the skin, as reported in the literature.

Administration: As directed by physician.

Form Supplied: 10-cc. multiple dose vials.

Source: National Drug Company, Philadelphia, Pa.

ALCETIN TABLETS

Description: Rapidly disintegrating white tablets each containing: dextro-amphetamine sulfate, 2.5 mg.; acetophenetidin, 162.0 mg.; and acetylsalicylic acid, 227.0 mg.

Indications: Indicated in a wide range of painful conditions such as phlebitis, bursitis, headache, sinusitis, neuralgia, myalgia, neuritis, toothache, arthritis, dysmenorrhea; and for suppressing the fever associated with infections. Also tends to counteract the depressant effect of analgesic drugs upon heart and circulation.

Administration: One or 2 tablets, 3 or 4 times daily, or as directed by physician.

Form Supplied: Bottles of 100 and 1000 tablets.

Source: Pitman-Moore Co., Division of Allied Laboratories, Inc., Indianapolis, Ind.

AMSALIN CAPSULES

Description: Capsules, containing: *d*-amphetamine phosphate, 1.0 mg.; pyrilamine maleate, 12.0 mg.; thenylpyramine fumerate, 12.0 mg.; salicylamide, 150.0 mg.

Indications: Designed for symptomatic relief of the common cold.

Administration: As directed by physician.

Form Supplied: Bottles of 100, 500, and 1000.

Source: Irwin, Neisler & Co., Decatur, Ill.

AQUASOL A-C-D DROPS

Description: Each 0.6-cc. solution provides: vitamin A (natural), 5000 U. S. P. units; vitamin C, 75.0 mg.; vitamin D (natural), 1000 U. S. P. units.

Indications: For prevention and treatment of vitamin A, C, and D deficiencies in infants, children, and adults, particularly in those with conditions characterized by impaired fat absorption (dysfunctions of the liver, pancreas, biliary tract, and intestines; celiac disease, sprue, and other diarrheal conditions).

Administration: Infants: administer directly on baby's tongue. Mixes readily with formula, milk, desserts, and other foods.

Form Supplied: Bottles of 15 cc. and packages of 30 cc., with dosage-marked droppers.

Source: U. S. Vitamin Corp., New York, N. Y.

AQUASPERSE VITAMIN A C D DROPS

Description: An aqueous, hypoallergenic solution containing in each 0.6 cc.: vitamin A, 5000 U. S. P. units; vitamin D, 1000 U. S. P. units; and ascorbic acid, 50 mg.

Indications: For patients who do not tolerate natural sources of vitamin C, and who suffer allergic reactions to oil-soluble vitamins derived from fish oil sources.

Administration: As directed by physician.

Form Supplied: Bottles of 15 and 30 cc., with droppers calibrated for 0.3 and 0.6 cc.

Source: White Laboratories, Inc., Newark, N. J.

BEMOTINIC CAPSULES

Description: Capsules, each containing: ferrous sulfate exsiccated, 200.0 mg.; vitamin B_{12}, 10.0 mcg.; gastric mucosa (dried), 100.0 mg.; desiccated liver substance, 100.0 mg.; folic acid, 0.67 mg.; thiamine HCl, 10 mg.; vitamin C, 50.0 mg.

(Continued on next page)

Indications: For treatment of iron-deficiency and macrocytic anemias.

Administration: Adults: One or 2 capsules three times daily, or as directed by physician.

Form Supplied: Bottles of 100 and 1000.

Source: Ayerst, McKenna & Harrison Limited, New York, N. Y.

BETA-CONCEMIN FERRATED CAPSULES AND ELIXIR

Description: Elixir—Each 30 cc. (1 fluidounce) contains: thiamine hydrochloride, 60.0 mg.; riboflavin, 12.0 mg.; niacinamide, 60.0 mg.; pyridoxine hydrochloride, 6.0 mg.; ferrous gluconate, 2.0 Gm.; and vitamin B_{12} activity, 12.0 mcgm., contributed by a special extract derived from liver and vitamin B_{12} as in streptomyces fermentation extractives. Capsules—Each capsule is equivalent to 1 teaspoonful of the elixir, or one-sixth of the above formula.

Indications: Antianemic tonic supplying sufficient factors for hematopoiesis particularly in the hypochromic microcytic anemias, including nutritional deficiency, iron deficiency, and chronic blood loss.

This preparation is not intended for the treatment of pernicious anemia.

Administration: Elixir: 5 to 10 cc. (1 to 2 teaspoonfuls) three times daily, followed by water. Capsules: 1 to 2 capsules, three times daily. (Children and infants proportionately less.)

Form Supplied: Elixir: 12-ounce and gallon bottles. Capsule: Bottles of 100 and 1000.

Source: The Wm. S. Merrell Co., Cincinnati, Ohio.

DI-MET

Description: A balanced combination of male and female sex hormones in single-dose form. Each tablet contains 1.0 mg. of estradiol and 10.0 mg. of methyl testosterone. The injectable form, known as Di-Met (BP), contains in each cc. 1.0 mg. of estradiol benzoate and 20.0 mg. of testosterone propionate.

Indications: For the control of acute menopausal symptoms and of menopausal osteoporosis.

Administration: In the treatment of menopausal symptoms the usual daily dosage by the oral route is 1 or 2 tablets per day. Buccally, the dose is $^1/_2$ to 1 tablet every day or on alternate days. Intramuscularly, the dosage is 0.5 cc. two or three times a week. Similar dosage is recommended for menopausal osteoporosis, in addition to which needed bond-building materials should be provided.

Form Supplied: Di-Met tablets: Bottles of 30 and 100. Di-Met (BP): 10-cc. vials.

Source: Organon Inc., Orange, N. J.

EBICOL ELIXIR-MRT

Description: An adjusted, palatable formula representing therapy in an essential form for lipotropic action in derangements of fat metabolism. Each teaspoonful (5 ml.) contains: vitamin B_1, 1.0 mg.; vitamin B_2, 2.0 mg.; niacinamide, 10.0 mg.; choline citro phosphate, equivalent to choline, 400.0 mg.; inositol, 200.0 mg.; liver fraction 1 N. F., 250.0 mg.; yeast concentrate, 250.0 mg.; extract of rice bran, 250.0 mg.; honey, 250.0 mg.; and potassium acetate, 100.0 mg.

Indications: Offers lipotropic therapy in liver disease and derangements of fat metabolism where high plasma cholesterol levels are associated with atherosclerosis and arteriosclerosis. Indicated in coronary disease where there is a high total serum cholesterol. Not limited to cases of liver disease and fat metabolism but is now recognized as being highly valuable in fat and carbohydrate metabolism.

Administration: One teaspoonful to 1 tablespoonful with meals three times daily, or as directed by physician.

Form Supplied: Bottles of 1 gallon and 8 fluidounces.

Source: Marvin R. Thompson, Inc., Stamford, Conn.

FERROPHYLL

Description: Hematinic tablets, each containing: exsiccated ferrous sulfate, 200.0 mg.; sodium potassium copper chlorophyllin, 25.0 mg.; and vitamin B_{12}, 2.0 mcg.

Indications: For rapid and sustained therapeutic response in hypochromic or secondary anemias; especially valuable in acute anemia secondary to chronic hemorrhage.

Administration: 1 tablet three times daily.

Form Supplied: Bottles of 50.

Source: Lakeside Laboratories, Inc., Milwaukee, Wis.

GANTRISIN DIETHANOLAMINE OPHTHALMIC

Description: Sterile, isotonic, buffered solution containing 4% Gantrisin in the form of its diethanolamine salt.

Indications: For the treatment of eye infections.

Administration: As directed by physician.

Form Supplied: 1-ounce vial with dropper.

Source: Hoffmann-La Roche, Inc., Nutley, N. J.

GERONE

Description: A solution containing in each 5 cc.: dextro-amphetamine sulfate, 2.0 mg.; thiamine hydrochloride, 2.0 mg.; nicotinamide, 10.0 mg.; riboflavin, 0.5 mg.; pyridoxine hydrochloride, 0.5 mg.; and calcium pantothenate, 1.0 mg.

Indications: Indicated in psychic fatigue, mental depression, malaise, muscular weakness, neurasthenia, and general nutritional inadequacy.

Administration: One to 2 teaspoonfuls (5–10 cc.) three times a day, depending upon the requirements of the patient. Should be administered immediately after meals. Contraindications in persons with agitated psychotic states and hyperexcitability.

Form Supplied: 8-oz. bottles.

Source: Pitman-Moore Co., Indianapolis, Ind.

GYNETONE TABLETS

Description: Tablets, each combining Estradiol U. S. P., 1.0 mg.; and Methyltestosterone U. S. P., 10 mg.

Indications: For simultaneous male and female hormone therapy with a correct balance of the hormones for the majority of cases, and for relief of menopausal symptoms.

Administration: Menopause: initially, 1 tablet per day, gradually reducing the dosage as symptoms are controlled.

Form Supplied: Bottles of 30 and 100.

Source: Schering Corp., Bloomfield, N. J.

HAEMOL (FORTIFIED)

Description: Tablets, each containing: liver, desiccated (defatted), 3 gr.; ferrous sulfate, exsiccated, 2 gr.; thiamine mononitrate, 3.0 mg.; riboflavin, 1.0 mg.; niacinamide, 9.0 mg.; B_{12} (equivalent), 2.0 mcg.

Indications: For use in secondary anemia, hypochromic anemia of pregnancy, and nutritional macrocytic anemia.

Administration: 3 to 6 tablets daily as directed by physician.

Form Supplied: Bottles of 100, 500, and 1000.

Source: Irwin, Neisler & Co., Decatur, Ill.

HEMO-VATINE

Description: Ampoule vials each containing: vitamin B_1, 10.0 mg.; vitamin B_2, 2.0 mg.; vitamin B_6, 5.0 mg.; vitamin B_{12}, 5 micrograms; sodium pantothenate, 5.0 mg.; niacinamide, 100.0 mg.; folic acid, 5.0 mg.; and crude liver, 2 units.

Indications: Indicated in the treatment of B complex deficiencies. Recommended in patients with obscure symptoms such as numbness and tingling in the legs, sore lips and tongue, as well as in pellagra, beriberi, ariboflavinosis, and certain macrocytic anemias.

Administration: Subcutaneous or intramuscular injection, the contents of one vial is the average dose. In severe deficiency, 2 or more doses daily until improvement. In moderately severe cases, 1 dose on alternate days. For fortification prior to surgery, 1 or 2 injections daily for several days. This solution is not to be administered intravenously.

Form Supplied: Combination packages of six 2-cc. vials with one 10-cc. vial of diluent.

Source: Smith-Dorsey Co., Lincoln, Neb.

NEUTRAZYME SUPPOSITORIES

Description: Suppositories, each containing sodium lauryl sulfate, 100.0 mg.

Indications: For relief of "idiopathic" anal pruritus.

Administration: One to 2 suppositories daily according to the needs of the patient. In more severe cases, one suppository inserted after each bowel movement.

Form Supplied: Bottles of 12.

Source: Smith-Dorsey Co., Lincoln, Neb.

N P H ILETIN

Description: Injectable insulin preparation with prompt onset and prolonged action.

Indications: For management of diabetes.

Administration: As directed by physician.

Form Supplied: Bottles of 10 cc. with tamper-proof aluminum seal which is easily removed at the time of use. The aluminum seals have colors keyed in accordance with the concentration: red for 40 units per cc., or, green for 80 units per cc.

Source: Eli Lilly and Company, Indianapolis, Ind.

(Continued on next page)

PENTRIZINE TABLETS

Description: Tablets, each containing: penicillin G. potassium, 100,000 units; sulfadiazine, 0.17 Gm.; sulfamerazine, 0.17 Gm.; sulfamethazine, 0.17 Gm.

Indications: For use in infections susceptible to penicillin and sulfonamides, particularly in mixed infections.

Administration: Adults: Initial dosage is 6 tablets, followed by 2 tablets every four hours. When fever abates, maintenance dosage may be 2 tablets every six hours. Children: Up to six months, initial dose is $1^1/_2$ tablets followed by $^1/_2$ tablet every six hours. Six months to three years, initial dose is 3 tablets followed by 1 tablet every six hours. Three to ten years, initial dose is 6 tablets followed by 2 tablets every six hours.

Form Supplied: Bottles of 24.

Source: The Tilden Company, New Lebanon, N. Y.

PRENATAL CAPSULES

Description: Capsules, each containing: vitamin A, 2400 U. S. P. units; vitamin D, 400 U. S. P. units; thiamine HCl, 2.0 mg.; riboflavin, 2.0 mg.; ascorbic acid, 25.0 mg.; nicotinamide, 7.0 mg.; Folvite folic acid, 1.0 mg.; calcium (in $CaHPO_4$), 250.0 mg.; phosphorus (in $CaHPO_4$), 190.0 mg.; dicalcium phosphate anhydrous ($CaHPO_4$), 869.0 mg.; iron (in exsiccated FeO_4), 6.0 mg.; ferrous sulfate exiccated ($FeSO_4$), 20.9 mg.; and manganese (in $MnSO_4$), 0.12 mg.

Indications: A vitamin and mineral dietary supplement for use in prenatal care and lactation.

Administration: As directed by physician.

Form Supplied: Bottles of 100 and 1000.

Source: Lederle Laboratories Division, American Cyanamid Company, New York, N. Y.

RU-NITRAL WITH THEOPHYLLINE

Description: Scored tablets, each containing: mannitol hexanitrate, 32.0 mg.; rutin, 20.0 mg.; theophylline, 100.0 mg.; and phenobarbital, 16.0 mg.

Indications: Indicated in relief of patients with congestive heart failure, hypertension, pulmonary edema, angina pectoris, cardiac edema, cardiac hypertrophy, and paroxysmal dyspnea.

Administration: One or 2 tablets every four to six hours.

Form Supplied: Bottles of 100.

Source: The Paul Plessner Co., Detroit, Mich.

NEW

SEDORZYL

Description: Liquid preparation containing in each teaspoonful (5-cc.): phenobarbital, $^1/_8$ grain; organidin (R), 10 minims; ephedrine sulfate, $^1/_4$ grain; benzyl alcohol, 1 minim; and alcohol, 3.5%.

Indications: For relief of respiratory congestion, especially for the symptomatic treatment of mild asthma, allergic seizures, hay fever, chest colds, tracheitis, and bronchitis.

Administration: Adults: 1 teaspoonful every 2 to 4 hours. Children: proportionately less, as directed by physician.

Form Supplied: 1-pint bottles.

Source: Henry K. Wampole & Co., Inc., Philadelphia, Pa.

THIOCARBARSONE

Description: Synthetic trivalent arsenical with more pronounced amebicidal action than carbarsone.

Indications: In treatment of Endomeba histolytica infections in the bowel or intestines.

Administration: Adults 1:00.0 mg. three times daily for ten days by retention enema or enteric-coated tablets. Children: 4.0–6.0 mg. per Kg. of body weight, given daily in 3 or 4 portions.

Form Supplied: "Enseals" Thiocarbarsone, for oral administration: 25.0 and 50.0 mg. in bottles of 100. Powder Thiocarbarsone solubilized: packages of six vials (No. 63), each vial containing 0.5 Gm. Thiocarbarsone and 1.8 Gm. sodium bicarbonate.

Source: Eli Lilly and Company, Indianapolis, Ind.

TRUOZINE (Veterinary)

Description: Tablets, each containing 20 gr. (1.33 Gm.) each of sulfadiazine, sulfamerazine, and sulfamethazine. Each tablet equivalent in antibacterial effect to 60 gr. of a single sulfonamide.

Indications: In any case of acute bacterial infection in which the component drugs are specifically indicated.

Administration: In large animals an adequate blood level may be achieved by an initial dose of $^1/_2$ to $^3/_4$ gr. per pound of body weight, or approximately 60 gr. per 100 pounds. This is to be followed by maintenance doses of 15 to 18 gr. per 100 pounds every 8 hours. Initial dose may be given intra-

PRESCRIPTION PRODUCTS

This monthly listing of new prescription products is designed for easy insertion in a ring binder. Simply lift out the eight pages, punch holes where marked, and slip into an 8½ x 11 binder. A continuing six month index appears on the sixth and seventh pages for quick reference. Manufacturers are urged to send their new product information to the Executive Editor, AMERICAN PHARMACEUTICAL ASSOCIATION, 2215 Constitution Avenue, N.W., Washington, D.C., for inclusion in this free copyrighted editorial service.

venously with Duozine Sodium 10% solution, Vet., followed by maintenance doses of Truozine tablets

Form Supplied: Bottles of 50.

Source: Abbott Laboratories, N. Chicago, Ill.

VADCON

Description: Water-miscible liquid vitamin concentrate containing in each cc.: vitamin A palmitate, U. S. P., 10,000 units; natural vitamin D concentrate, U. S. P., 2000 units.

Indications: Vitamin Supplement.

Administration: Can be taken alone or mixed with foods, upon advice of physician.

Form Supplied: 30-cc. dropper bottles.

Source: Walker Vitamin Products, Inc., Mount Vernon, N. Y.

VI-AQUA

Description: Capsules, each containing: vitamin A (natural), 5000 units; vitamin D (calciferol), 500 units; thiamine HCl, 5.0 mg.; riboflavin, 5.0 mg.; vitamin B_{12}, 1.0 mcg.; niacinamide, 20.0 mg.; pyridoxine HCl, 0.5 mg.; d, calcium pantothenate, 5.0 mg.; ascorbic acid, 50.0 mg.; and dl, Alpha-tocopheryl acetate, 1.0 mg.

Indications: For prevention and treatment of multiple vitamin deficiencies, particularly in conditions where absorption of fat is impaired.

Administration: One, 2, or more capsules daily as required.

Form Supplied: Bottles of 50, 100, and 1000.

Source: U. S. Vitamin Corp., New York, N. Y.

VIFORT CAPSULES

Description: A soft gelatin capsule containing: in water soluble solution: vitamin A, 5000 units; vitamin D, 500 units; ascorbic acid, 60 mg.; thiamine mononitrate, 3.0 mg.; riboflavin, 2.0 mg.; nicotinamide, 20.0 mg.; panthenol, 5.0 mg.; pyridoxine hydrochloride, 0.3 mg.; and tocopherol, 2.0 mg.

Indications: As a plyvitamin supplement for adults and children in a truly water-soluble form for complete absorption.

Administration: One capsule daily or as directed by physician.

Form Supplied: Bottles of 30, 100 and 250.

Source: Endo Products, Inc., Richmond Hill, Longl Isand, New York.

Other New Products

(Chemicals, clinical trial drugs, diagnostic aids, and equipment for the retail and hospital pharmacy)

Permanent Cartridge Demineralizer

A new permanent cartridge demineralizer with exclusive Flow Meter has been designed for users of up to 10 gallons per hour of high purity water. The unit is equipped with a Flow Meter, a slight indicator that enables the operator to adjust intake flow to the proper rate for producing water comparable to distilled in solids-free purity, and also has a built-in electric conductivity meter which provides continuous visual indication of the quality of the treated water, warning when the resin charge should be renewed. With raw water containing 5 grains of solids, one resin charge will provide 200–230 gallons of demineralized water.

Manufactured by: The Penfield Manufacturing Co., Inc., Meriden, Conn.

Safety Dispenser Closure

A two-piece plastic closure, fabricated of plastic material, has been designed to stay on when medicine, cosmetics, or household necessities are poured from a bottle. The closure opens on the top by means of a hinge and the liquid is poured through a small opening, sealed by a snap, on the under-surface of the closure. The material contained in the bottle is completely sealed off from the outside air and contamination, thus preventing evaporation of any volatile liquids.

Distributed by: Jamco Products Co., 111 Fifth Avenue, New York, N. Y.

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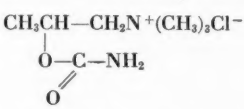
NNR

PRODUCTS RECENTLY ACCEPTED BY THE A. M. A. COUNCIL ON PHARMACY AND CHEMISTRY

Council descriptions of new drug products only are published regularly in THIS JOURNAL *as they are accepted. Rules upon which the Council bases its action appeared in the July (7:320) 1946 issue, and may be secured in pamphlet form upon request to the Secretary, Council on Pharmacy and Chemistry, American Medical Association, 535 N. Dearborn St., Chicago 10, Ill.*

BETHANECHOL CHLORIDE.—Urecholine Chloride (Merck).—$C_7H_{17}ClN_2O_2$.—M. W. 196.68. —β-Methylcholine carbamate chloride.—Urethane of β-methylcholine chloride.—The structural formula of bethanechol chloride may be represented as follows:



Actions and Uses.—Bethanechol chloride has choline chloride but differs from acetylcholine in that it exhibits little if any ganglionic stimulating action and is not destroyed by choline esterase. It is less toxic than some other esters of choline but is also less active.

Bethanechol chloride is useful in the treatment of conditions which are relieved by stimulation of the parasympathetic nervous system. It has been used successfully in the treatment of gastric retention following vagotomy, in postoperative urinary retention and in postoperative abdominal distention.

Although the drug has been tried in a number of other conditions which sometimes respond to parasympathetic stimulation, its precise role is not fully established. It may, however, be tried in such disorders as megacolon, adynamic ileus accompanying severe trauma, acute infections, neurogenic disorders, neurogenic atony of the urinary bladder with retention and gastric atony and retention following gastric surgery.

Dosage.—The optimum method of administration and the dosage must be determined for the individual. Mild or moderately severe disorders may respond to oral therapy, whereas severe maladies may require subcutaneous injection of the drug.

Oral doses of 10 to 30 mg. of bethanechol chloride three or four times daily meet most needs. The effect of the drug is sometimes apparent within 30 minutes.

The drug should never be given intravenously or intramuscularly. It may be administered *subcutaneously* to patients who do not respond to oral therapy or to those whose physical condition precludes it. The usual subcutaneous dose is 5 mg. (1 cc.), although some patients respond satisfactorily to as little as 2.5 mg. (0.5 cc.). It is suggested that the *minimum effective dose* be determined in each case by injecting 2.5 mg. initially and following this with a second, third or fourth dose of similar size at 15 to 30 minute intervals if neither satisfactory response nor disturbing side effects result. The optimum dose thus determined may be repeated 3 or 4 times daily, if required. Subcutaneous injection of single doses up to 10 mg. may be necessary to produce a satisfactory response, but such doses should be given only after adequate trial with doses of 2.5 to 5 mg. Unpleasant and occasionally severe side effects may occur following subcutaneous doses of 5 to 10 mg. All effects of the drug can be abolished promptly by subcutaneous or intravenous injection of 0.6 mg. atropine sulfate.

Physical Properties: Bethanechol chloride is a white, crystalline solid, with an amine-like odor. It melts between 217 and 220° C. with decomposition. It is very soluble in water; freely soluble in alcohol; and practically insoluble in chloroform, benzene and ether. The *p*H of a 0.5 per cent solution is between 5.5 and 6.3.

Dosage Forms of Bethanechol Chloride

Solution. *Assay:* Pipet into a test tube an amount of the solution equivalent to 15 mg. of bethanechol chloride. Dilute to 10 ml. with water and proceed with the spectrophotometric determination described in the monograph for Bethanechol Chloride starting with, ". . . add 5 ml. of a freshly prepared and filtered saturated solution of ammonium reineckate. . . ." The amount of bethanechol chloride present is not less than 90.0 nor more than than 110.0 per cent of the labeled amount.

Tablets. *Assay:* Accurately weigh 30 tablets and grind them. Weigh out an amount equivalent to about 0.15 Gm. of bethanechol chloride and transfer it to a glass-stoppered Erlenmeyer flask. Add 50 ml. of water, shake the flask for 2 hours, filter the mixture through a fritted glass funnel into a 250-ml. suction flask, wash the precipitate with ten 10-ml. portions of water, resuspending the precipitate by stirring at each washing and collecting the washings in the flask. Transfer the solution to a 200-ml. volumetric flask. Make up to the mark with water. Transfer 10 ml. of the solution to a test tube and carry out the spectrophotometric determination described in the monograph for Bethanechol Chloride starting with, ". . . add 5 ml. of a freshly prepared and filtered saturated solution of ammonium reineckate. . ." but make up the final acetone solution to 10 ml. instead of 25 ml. The amount of bethanechol chloride present is not less than 90.0 nor more than 110.0 per cent.

[For more detailed information regarding action and uses and for tests and standards, see *J. Am. Med. Assoc.*, 145: 14 (1951).]

Merck and Company, Inc., Rahway, N. J.

Tablets Urecholine Chloride: 5 mg. U. S. Trademark 389,307.

Solution Urecholine Chloride: 1-cc. ampuls. A solution containing 5 mg. of bethanechol chloride in each cc.

professional equilibrium and compounding precision

by Samuel W. Goldstein, Ph.D and Albert M. Mattocks, Ph.D.

How to Test Your Prescription Balance

Part II of this special article from the laboratory of the AMERICAN PHARMACEUTICAL ASSOCIATION on compounding precision outlines simple tests the pharmacist may follow to determine the accuracy of his prescription balance. Part I, on balance specifications, appeared in the April issue. Part III, on techniques of weighing, will appear next month.

EDWARD Parrish's Treatise on Pharmacy which was brought up to date by a revision in 1884 stated: "It is well to try the accuracy of the scales occasionally, as well by weighing exceedingly small quantities upon them when balanced by heavy weights, as by using two weights known to be equal and changing them to the opposite sides of the beam; this will show, at once, if there be the least deflection in either arm of the beam." When we explain that the exceedingly small quantity is 10 mg. and that it should cause a deflection of 1 space on the index scale, and that this should also happen when the weight is added when the pans are empty, two of the four important tests are covered. If we add the statement that simultaneous movement of equal weights to different positions of the pans should produce no more deflection from the point of equilibrium than can be overcome by addition of a 20-mg. weight, and that the beam weights should be checked against known weights, we have covered the four tests.

Now let us repeat, giving more detailed information, the testing procedure and the interpretation of the results.

There are four basic tests to be made on a prescription balance: (1) sensibility reciprocal (sensitivity), (2) arm ratio, (3) shift test, and (4) graduated beam and rider test. The N. B. S. tolerances given here are for Class A balances. Class B tolerances are 2.5–3 times as great. A seated position is most convenient for the tester if the balance has an upright index scale.

One can adjust the balance to obtain equal swings of the pointer to right and left or up and down (depending on type of indicator), or to obtain stoppage or "rest" with perfect alignment of double pointers. However, the rest point can be determined more conveniently as follows without waiting for oscillations to stop. Allow the beam to oscillate and read, to the nearest division or fraction of a division, three successive oscillations. If the balance has two pointers read the oscillations of the right-hand pointer only. Let the center division be called zero, reading oscillations to the left as negative and those to the right as positive. The first and third readings can be positive and will represent oscillations in the same direction, while the second will be negative and in the opposite direction (see Fig. 1).

Average the first and third readings, and average this value with the second reading. The result is the point at which the indicator would come to rest if one waited until oscillations

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Professional Equilibrium

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ceased. For example, with a single pointer which oscillates left and right, let us suppose that we make the following readings: $1^1/_4$, -3, 1, the arithmetic becomes

$$(a)\quad \frac{1^1/_4 + 1}{2} = 1^1/_8$$

$$(b)\quad \frac{1^1/_8 + -3}{2} = -\,{}^{15}/_{16}\text{ (rest point)}$$

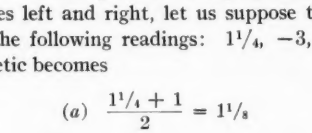

Fig. 1. Index plate of single pointer balance

In a second case suppose the balance has double pointers, let only the right-hand pointer be read, and let values above the center division be positive, those below, negative (see Fig. 2).

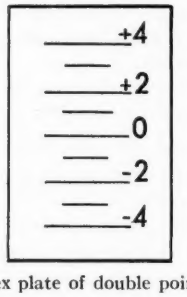

Fig. 2. Index plate of double pointer balance

The following readings are made: $1^3/_4$, $-1^1/_2$, $1^1/_2$. Then:

$$(a)\quad \frac{1^3/_4 + 1^1/_2}{2} = 1^5/_8$$

$$(b)\quad \frac{1^5/_8 + -1^1/_2}{2} = +\,{}^1/_{16}\text{ (rest point)}$$

In order to carry out an adequate test of the presciption balance in a simple and satisfactory manner, it is necessary to have a set of test weights. This set consists of two 10-Gm., one 1-Gm., one 500-mg., one 20-mg., and one 10-mg. weights, all of which should be adjusted to National Bureau of Standards Class B tolerances. These weights should be kept in a closed box, suitably protected from dust and corrosive fumes, and should be handled only with forceps. If properly cared for, they will last a lifetime. Sets of these test weights may be obtained from the prescription balance manufacturers at a reasonable price.

THE FOUR TESTS

The rider on the graduated beam must be at its zero position at all times during testing operations except when movements of the rider are specifically called for in the test of the graduated beam and rider.

1. Sensibility Reciprocal

This is the amount of weight that must be added to one pan to procure a change of one division on the index plate in the rest point of the balance. The smaller the weight required to move the indicator the specified distance, the more sensitive is the balance.

The Bureau of Standards requires a sensibility reciprocal of 13 mg. (0.2 grain), or the value of two of the smaller divisions on the weighbeam, whichever is less. With most balances this will be 13 mg., since the small graduations on the beam are 10 mg. each. For practical purposes it is most convenient to test for the sensibility reciprocal by using a 10-mg. weight. First, make sure that the balance is level, and then without any weights on the pans, determine the rest point of the indicator. In all determinations of rest point the balance lid should be closed so as to prevent drafts from affecting the oscillations. Now add a 10-mg. weight to the right pan. The rest point should be shifted not less than one division on the indicator scale. Next, test for the sensibility reciprocal with a 10-Gm. load. Place one of the 10-Gm. test weights on the center of each of the pans, note the rest point, add a 10-mg. weight to the right pan and again determine the rest point. In this case, also, the change in rest point should be not less than one division. This series of tests for sensibility reciprocal with different loads is a direct test for sensitiveness of the scale. Many prescription balances will have a much higher sensitiveness, and at the time of manufacture all have almost twice this sensitiveness. It must be borne in mind, then, that it is the minimum sensitiveness that is being tested for, and if a balance barely meets the test, it is wise to have it cleaned and readjusted.

2. Arm Ratio

This test indicates errors of construction of the balance, specifically errors in the equality of length of the two arms of the balance. To make this test, first determine the rest point of the balance without any weight on the pans. Then place in the center of each pan one of the 10-Gm. test weights, and determine the rest point. If the rest point is not the same as it was with no weights on the pans, place the 10-mg. weight on the lighter side; the rest point should move back to the

original place on the scale or farther. If the 10-mg. weight does not overcome any differences in rest point, as compared with the rest point with no weights on the pans, the arm-length error is excessive and the balance should be repaired.

3. Shift Tests

The shift tests reveal errors in the balance caused by damage or faulty manufacture of the beam and lever components. This series of tests is particularly valuable when there has been some abuse of the balance. A shift test may be carried out as follows:

A. Determine the rest point of the indicator without any weights on the pans.

B. Place one of the 10-Gm. weights in the center of the left pan, and place the other 10-Gm. weight successively toward the right, left, front, and back side of the right pan, noting the rest point in each case. If in any case the rest point differs from the rest point determined in step A, add the 20-mg. weight to the lighter side; this should cause the rest point to shift back to the rest point determined in step A or farther.

C. Place a 10-Gm. weight in the center of the right pan, and place a 10-Gm. weight successively toward the right, left, front, and back side of the left pan, noting the rest point in each case. If in any case the rest point is different from that obtained with no weights on the pans, this difference should be overcome by addition of the 20-mg. weight to the lighter side.

D. Make a series of observations in which both weights are simultaneously shifted to off-center positions on their pans, both toward the outside, both toward the inside, one toward the outside, and the other toward the inside, both toward the back, and so on until all combinations have been checked. If in any case the rest point differs from that obtained with no weights on the pan the addition of the 20-mg. weight to the lighter side should overcome this difference.

A balance which does not measure up to these tests *must* be corrected.

4. Rider and Graduated Beam Tests

Determine the rest point for the balance with no load on the pans. Now place on the left pan the 500-mg. test weight and move the rider to the 500-mg. point on the beam. Now determine the rest point. If it is different from the zero rest point, add a 10-mg. weight to the lighter side. This should bring the rest point back to its original position or farther. Repeat this test, using the 1-Gm. test weight and moving the rider to the 1-Gm. division on the beam. If the rest point is different it should be brought back at least to the zero rest point position by addition of 10 mg. to the lighter pan. If the balance does not meet this test, the weighbeam graduations or the rider *must* be corrected.

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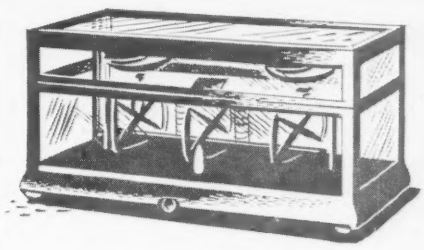


Authors' Summary

There are four basic tests to be made on a prescription balance.

Before beginning tests, adjust balance accurately to "rest point." Methods to follow to make this adjustment are presented.

Sensibility reciprocal (sensitivity) is the major aim of test 1.

Errors of construction in the balance (equality of arm length) are discovered through test 2.

Faulty manufacture or damage is revealed by the shift test, 3, which has four distinct steps, all easily followed.

If the balance does not meet test 4, for rider and graduated beam, either one or the other, or both, should be factory corrected.

Occasional checking is not sufficient. Periodic checks should be made to insure accurate compounding.

A chart for recording findings of tests is provided. Copies, on heavy cardboard, may be ordered from the AMERICAN PHARMACEUTICAL ASSOCIATION at no charge.

CURRENT CLINICAL STATUS

*by R. J. Meyer, M.D.**

Few medical discoveries have been subjected to such intense clinical research as has ACTH. In this brief article, Dr. Meyer, reviews the background and outlines its clinical standing, as of May 1 of this year.

THE dramatic results that have been observed in the clinical use of ACTH were in a large measure not anticipated during the early research period, and after its first commercial preparation under the name of ACTHAR.† However, the rapidly growing series of favorable clinical results give increasing evidence of the broad therapeutic usefulness of this new hormonal agent.

The many and varied reports that have appeared in the lay press have led to some confusion and a fair number of popular misconceptions concerning the use of ACTH. Some of these reports have stressed the danger of using this agent; some have indicated that unwanted "side effects" occur when it is used. Usually the entire story and explanation that go with it have been incomplete or totally lacking. There is no truth to the ideas that ACTH is dangerous, will grow beards, cure baldness, rejuvenate the male population or make freaks out of persons under treatment. In a recent survey conducted by The Armour Laboratories all the investigators who were questioned indicated that ACTH therapy was perfectly safe when adequately supervised and administered under the recommended dosage schedules. Furthermore, all of the "side effects" which were seen only rarely during treatment, disappeared entirely shortly after treatment was discontinued or dosage was decreased.

The vast and ever-growing series of reports in the medical literature lend considerable credence to the safety of ACTH and it seems quite in order to conclude that it is a safe drug when used properly.

* Assistant Director, The Armour Laboratories, Chicago, Illinois

† The Armour Laboratories brand of Adrenocorticotropic Hormone (ACTH).

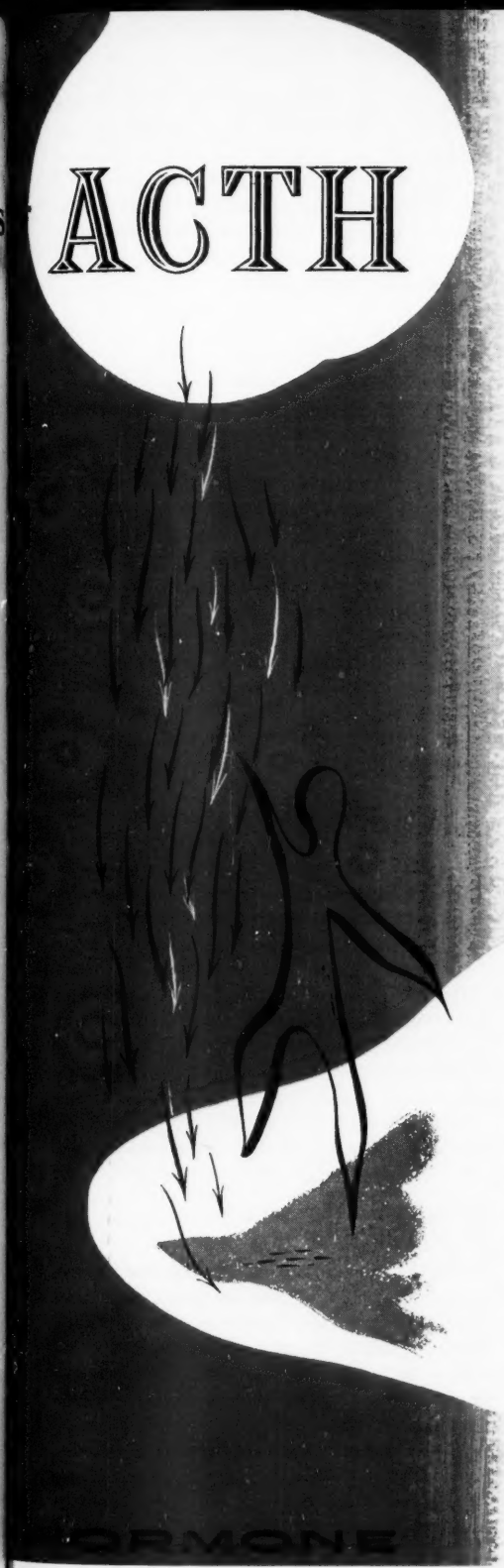
ORIGIN AND PHARMACOLOGY OF ACTH

ACTH is prepared from the anterior pituitary glands of domestic food animals by a process of extraction under conditions of extreme cold. The resulting product is a white lyophilized powder which is readily soluble in distilled water or saline and which is stable indefinitely in the dry powder form. When put into solution, its potency is retained for at least 5–7 days when kept under refrigeration. ACTH is essentially protein in nature with a molecular weight around 20,000. It is for all practical purposes biologically "pure" and is the first pituitary principle to be isolated in its "pure" form. The present commercial preparations are effective only by the subcutaneous, intramuscular or intravenous routes and have little or no effect when used topically or orally.

It is rapidly absorbed and quickly metabolized in the body, leading to prompt therapeutic effectiveness, so desirable in many acute conditions. It is completely metabolized within 4–12 hours so that there is no danger of cumulative effects. There is little or no pain on injection but if an occasional patient complains of pain this is easily offset by the use of 1% procaine in the diluent.

FUNDAMENTAL CONSIDERATIONS

Adequate adrenal cortical function has been demonstrated by Dr. Hans Selye to be essential in allowing the body to withstand and overcome a wide variety of stress situations, such as injury or fright. The use of ACTH, the specific physiologic stimulant of the adrenal cortex, enhances the activity of the adrenal cortex and stimulates release of the entire spectrum of adrenal cortical hormones into the blood stream. These adrenal cortical hormones exert specific effects on the body tissues and cells which allow the body to withstand and combat the effects of stress. Thus, ACTH stimulation of the adrenal cortex allows the cells of the body to function in a relatively normal physiologic manner in many pathologic states. Its therapeutic efficacy and clinical safety arises from the fact that ACTH



stimulates secretion of several types of adrenal cortical hormones, *all of which are of particular importance in the face of stress situations.*

As is true with insulin or thyroid, ACTH can profoundly alter many physiologic and pathologic processes when used in excessive doses; overdosage is, therefore, to be avoided. The so-called side-actions from overdosage, however, are not toxic side-actions such as those resulting from overdosage of digitalis, gold or sulfonamides. Instead, they reflect an exaggerated physiologic activity of the adrenal gland. Their appearance is gradual and permits ample opportunity for dosage adjustments to prevent progression. In all cases, the manifestations of overdosage are reversible, and completely disappear as the dosage is decreased or therapy is discontinued. In consequence, so-called side-actions pose no serious problem to the informed physician.

Maintenance therapy (50 mg. or less per day) apparently can be continued indefinitely. Rest periods are unnecessary since ACTH provides stimulant therapy and maintains the physiologic integrity of the adrenals, in contrast to adrenal involution occurring under substitution therapy with single adrenal cortical steroids.

Of prime importance is the necessity for continuous medical supervision during treatment, since ACTH is a potent hormonal agent capable of producing many changes in the body tissues. The evaluation of all these changes must be made and followed by a physician.

THERAPEUTIC CONSIDERATIONS

The physician who treats a diabetic with insulin or a myxedematous patient with thyroid knows that he does not cure the disease. What he has achieved, instead, is control of the disease. Similarly, many intractable and resistant diseases now can be controlled with ACTH. Rheumatoid arthritis, chronic intractable bronchial asthma and ulcerative colitis belong to this group of diseases in which satisfactory remission can be maintained by the continued administration of ACTH. Some patients afflicted with one of these diseases, however, may remain in remission for substantial periods of time without further administration of this new agent.

ACTH therapy is capable of reversing self-limited diseases such as acute rheumatic fever, certain acute hypersensitivities, and acute eye conditions. In such instances treatment may be necessary for a short period only.

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Clinical Status of ACTH

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Limits to Efficacy

As with any other drug, there are limitations to the efficacy of ACTH therapy. The severity of the disease may not be an obstacle, but where irreversible damage is present, such permanent damage cannot be expected to resolve, and in this sense is a limiting factor in efficacy. Destroyed or ankylosed joints will not resume their normal function. Likewise, the shrunken fibrotic heart valve from rheumatic heart disease will not unfold again. Excessive collagen deposits cannot be expected to disappear, and an emphysema associated with excessive collagen deposition in the lung cannot be expected to improve materially. On the other hand, the early use of ACTH will greatly increase the probability of successful therapy in many diseases, and will act to prevent or postpone the development of chronic or irreversible tissue damage with concomitant loss of function.

In approaching the treatment of specific disease states, continued investigation has revealed certain basic principles to be followed in order to insure success with ACTH.

Treatment Must Be Adequate

This implies that the initial dosage and the initial period of treatment should be of sufficient magnitude to insure therapeutic response. In general, 15–25 mg. of ACTH given instramuscularly every six hours over periods varying from one to eight weeks will produce an adequate and complete response in most disease states. As soon as a complete remission is obtained, dosage should be tapered gradually to either maintenance or discontinuance.

The various physiologic effects which ACTH is known to produce should be fully appreciated by the supervising physician and the recognition and control of effects of too low a dose or overdosage should be uppermost in his clinical appraisal.

CONTRAINDICATIONS

It is likewise extremely important to realize that certain existing diseases or coexisting diseases may actually contraindicate the use of ACTH, since its physiologic action may lead to detrimental effects in certain of these conditions.

The most important of these conditions in which ACTH should not be used because of its physiologic effects are: chronic glomerulonephritis, psychosis or psychotic personalities, active peptic ulcer, congestive heart failure not due to rheumatic myocarditis, severe hypertention, and active or recently healed tuberculosis.

SPECIFIC DISEASES RESPONDING TO ACTH THERAPY

ACTH has been employed in the treatment of many varied clinical diseases and the medical literature concerning its effects is voluminous. However, it is fair to say that many questions remain to be answered and a great deal of research directed at determining the final answers is currently being accomplished.

ACTH is of proved value in quite a few disease states (Table I) while in other conditions (Table II), the final value of ACTH remains to be determined.

Table I

ACTH is of Proven Value in

- **Rheumatoid Arthritis**
- **Rheumatoid Spondylitis**
- **Stills Disease**
- **Acute Rheumatic Fever**
- **Acute Lupus Erythematosus**
- **Bronchial Asthma**
- **Severe Hay Fever**
- **Drug Sensitivities**
- **Contact Dermatitis**
- **Urticaria**
- **Acquired Hemolytic Jaundice**
- **Acute Psoriasis**
- **Exfoliative Dermatitis**
- **Severe Pemphigus**
- **Nephrosis**
- **Acute Gouty Arthritis**
- **Congenital Idiopathic Hypoglycemia**
- **Ulcerative Colitis**
- **Acute Alcoholism and Delirium Tremens**

Rheumatoid Arthritis and Variants

Many thousands of patients with rheumatoid arthritis and its variants have now been treated with ACTH with continuing good results. The work of Doctors Hench, Markson, Freyberg Holbrook, Bauer and Thorn has been notable in this regard.

On the basis of current medical evidence, good results can be expected if 20–25 mg. of ACTH is given every six hours for at least seven days or until a remission has taken place. The lowest dosage of ACTH that will sustain the remission is arrived at by gradual tapering of the dosage over a period of several weeks. Some patients will have a sustained remission without further ACTH therapy once the initial remission is induced with ACTH. The average patient will usually show recurrence of symptoms shortly after ACTH is stopped and for this reason maintenance therapy is necessary.

Acute Rheumatic Fever

Most encouraging are recent reports by Doctors Wilson, McEwen, Massell and others in which the authors feel that chronic valvular damage to the heart may be prevented if treatment with ACTH is begun as soon as the diagnosis is established in children with acute rheumatic fever. A treatment course of 10–30 days of ACTH is necessary. The principle of adequate dosage (15–25 mg. every 6 hours) is extremely important especially in this instance, where structural damage to the heart may be prevented.

Bronchial Asthma

Doctors Howard, Harvey, Bordley, Rose, Randolph, Elkinton and others have recently reported dramatic and rapid improvement in patients with bronchial asthma, most particularly in status asthmaticus. In a number of instances ACTH has seemed to be life-saving.

In general, ACTH has been given in dosages of 25 mg. every six hours for periods of at least 2–4 days and the dose has been tapered to discontinuance over periods of 10–12 days. Most remarkable has been the sustained relief that has been observed following ACTH withdrawal; some patients remaining completely symptom-free for periods of 3–4 months.

OTHER DISEASE STATES

Space does not permit a discussion of all the diseases in which ACTH is of proved value (Table I). Suffice it to say that ACTH therapy has been equally dramatic in all the conditions listed.

There is a large group of diseases and conditions in which the final value of ACTH has yet to be determined. Many of these conditions (Table II) show considerable promise, and it seems quite likely that ACTH will be of definite value in the treatment of shock, burns and other traumatic conditions which are of such timely importance.

Current research effort remains extremely vast and many of the unanswered questions will no doubt be answered in the not too distant future. One thing is certain; we are in the midst of a new era in medicine made possible by the introduction of this amazing new hormonal agent into clinical medicine.

All our ideas of disease are undergoing a major change in the light of this discovery. There is little doubt that we stand on the threshold of solving many of the fundamental problems in disease states using ACTH as a very solid stepping-stone.

Table II

ACTH May Be of Definite Value in

- **Severe Burns**
- **Skin Grafting—Autogenous or Heterogenous**
- **Multiple Sclerosis**
- **Erythroblastosis Foetalis**
- **Leukemias and Lymphomatous Diseases**
- **Pulmonary Beryllosis**
- **Panhypopituitarism**
- **Postoperative or Traumatic Shock**
- **Lower Nephron Nephrosis**
- **Radiation Sickness**
- **Keloid Formation**
- **Postoperative Adhesions (Prevention of)**
- **Dermatomyositis, Periarteritis Nodosa and Scleroderma**
- **Toxins and Venoms (Spider and Snake Bite, etc.)**
- **Anemias and Purpuras**
- **Infectious Hepatitis**

NATIONAL DEFENSE AND

CIVIL DEFENSE

STATE and municipal governments will have to bear most of the major burden of civil defense unless the Congress restores to the Federal Civil Defense Administration the funds removed from its 1951 appropriation request in the House of Representatives, Federal Civil Defense Administrator Millard Caldwell told the Governors' Conference, held recently in Columbus, Ohio.

"The action of the House undoubtedly is due in a large part to the general public apathy to civil defense," Mr. Caldwell said. "The most vicious menace in America today is the shocking apathy of the American people to their danger from an enemy. In the interest of our people and the free world, we cannot surrender to this apathy, despite what is done or is not done by the Congress."

Here is what Congress has done:

The House Appropriations Committee denied funds for Fire Fighting, Wardens, Engineering, Transportation, Rescue, Reserve Supply and Operations, Welfare, Research and Development, and Medical Services.

A total of $75,638,000 had been requested for medical services. This included $13,850,000 for procurement of vaccines for pre-disaster immunization against biological warfare, and first aid station supplies to be stored at local points within the selected critical target areas.

The balance, $61,761,000, was requested for Federal stockpiling; radiological monitoring equipment valued at $1,668,700 was eliminated in its entirety; $32,000,000 was for the purpose of procuring medical and surgical equipment and supplies for the treatment of casualties resulting from an attack.

The rest was to be used to purchase drugs, blankets, cots, vaccines, blood plasma, and blood substitutes.

To the surprise of the FCDA, the House voted $100,000,000 as an emergency fund, but which was not to become available until after an emergency was created. Caldwell called this "an idle gesture."

In all, the House cut the $403,000,000 dollar budget request to $186,750,000, including the $100,000,000 emergency fund.

The National Conference of State Civil Defense Directors, gathered in Washington to attend the first course offered by the Federal Civil Defense Staff College the week of April 28, adopted a resolution addressed to the Senate Appropriations Committee.

The resolution stated that members of the conference placed "the highest priority, both from a practical and morale standpoint, on prompt and effective treatment of the injured."

This was necessary, the resolution said, because "official statements by authoritative members of the medical supply industry and by qualified officials of the Federal Government have established the fact that existing reserves of medical supplies are entirely inadequate to meet even the minimum emergency requirements."

The next day, the Senate committee decided to recommend a total of $84,000,000, which, while not adequate, nevertheless will make it possible for the FCDA to have a program.

Of this total, $40,000,000 will be provided for the stockpiling of medical and surgical supplies and equipment. The rest will go to the other Civil Defense services cut short of funds or left entirely out of funds by the action of the House committee.

To date, no funds have been appropriated for 1951 for civil defense. The differences between the House and Senate have not been reconciled and this must be done before the funds can be voted and made available.

NATIONAL CIVIL DEFENSE MEETING

In order to combat the apathy of the public toward the civil defense program, Federal Civil Defense Administrator Millard Caldwell called a meeting on May 7 and 8 in Washington, D. C. Representatives of more than 250 professional, scientific, trade, and business organizations, including the AMERICAN PHARMACEUTICAL ASSOCIATION, were invited. In addition, regional Civil Defense Directors, about fifteen governors, state civil defense and city civil defense directors attended. In all, about 1,000 conferees gathered for the two-day session.

On May 7, forums were held on Civil Defense Organization and Volunteer Technical Services. Secretary of Defense, General George C. Marshall, addressed a luncheon, followed by forums on Health and Welfare Services and Public Affairs. That evening, President Truman addressed the conference at a banquet.

On Tuesday, forums were held on Shelters,

SECURITY

Warnings and Communications, Military Liaison and Training and Education.

The meeting closed with a luncheon address by Governor Earl Warren of California.

HERSHEY TO CONTINUE SCIENCE ADVISERS ON DRAFT PROBLEMS

Director of Selective Service, Major General Lewis B. Hershey, has given permanent appointments to members of his six Scientific Advisory Committees.

These are the committees, with Dr. M. H. Trytten of the National Research Council as general chairman, which submitted a special report on which the Selective Service program for deferment or postponement of service of college students will be based.

The committees cover the following fields: agricultural and biological sciences, engineering sciences, healing arts, humanities, physical sciences, and social sciences.

Members of the committee on the healing arts are: Dr. Stockton Kimball, University of Buffalo, Buffalo, N. Y.; Dr. Donald G. Anderson, American Medical Association, Chicago, Ill.; Dr. Gerald D. Timmons, Temple University, Philadelphia, Pa.; Dr. Walter R. Krill, Ohio State University College of Veterinery Medicine; Dr. R. MacFarlane Tilley, Brooklyn, N. Y., and Dr. Carel Koch, Minneapolis, Minn.

Selective Service College Qualification Test.—The deadline for the submission of applications for the Selective Service College Qualification Test requires that such applications must be postmarked not later than midnight May 15.

The three testing dates are May 26, June 16 and June 30, all these dates falling on Saturdays. A fourth examination will be held Thursday, July 12, for those students whose religious beliefs are such that they could not in conscience take the examination on a Saturday.

Students are urged to take the examination, but it must also be borne in mind that failure to pass the test does not necessarily make the student immediately draft eligible. If the student's comparative standing in his class is in the bracket which entitles him to deferment or postponement, then results of the examination will be disregarded.

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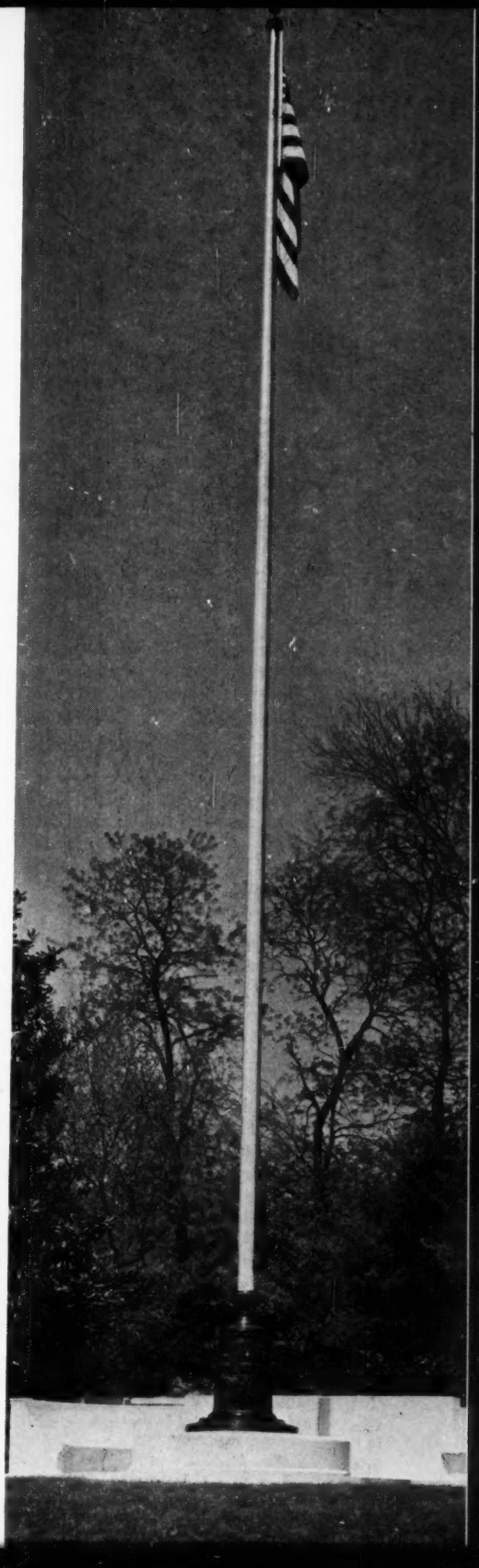

FROM THE SECRETARY'S DIARY FOR APRIL

4th This morning at the Soreno Hotel in St. Petersburg, where the hospital pharmacists of the southeastern states are gathered to meet with the hospital administrators and other personnel at the Southeastern Hospital Conference. In the afternoon addressing the convention and telling the hospital administrators particularly how hospital pharmacists are organized and what they have done to advance standards of hospital pharmacy practice.

5th This morning, following a hospital pharmacist breakfast, at which E. R. Squibb and Sons were hosts, addressing the Southeastern Society of Hospital Pharmacists and conducting a panel discussion covering all important problems of interest to hospital pharmacists. Later at luncheon with the same group, who were guests of Wyeth Incorporated. A quick tour of St. Petersburg before entraining for Washington, and seeing, among other things, the splendid museum which Mrs. Franklin M. Apple, widow of a former staunch A. PH. A. member, has gathered together for the citizens of this pleasant Florida city.

6th Now on to New York for the annual meeting and dinner of the National Health Council at which President Detlev Bronk of Johns Hopkins University spoke feelingly on the necessity of conserving scientific manpower.

7th To-day in Newark, N. J., where were gathered 231 members of Student Branches from the Colleges of Pharmacy in New York City, Philadelphia, New Haven and Pittsburgh, for a district meeting. These young men and women are to be congratulated for the splendid contribution they are making to the advancement of student thinking on current problems of pharmacy. Louis Kazin, the faculty adviser, and the officers of the Rutgers University Student Branch, which was the host, deserve high praise for the smoothness with which the details of the meeting were arranged.

9th Today came President Hugo Schaefer of the American Association of Colleges of Pharmacy, and Executive Committee Chairman Joseph Burt of the same organization, to meet at the Pentagon with General Kendrick of the Air Force to discuss ways and means of supplying pharmacists without lowering standards of education.

11th Yesterday a quick trip to Baltimore to address the University of Maryland pharmacy students. Early to-day to Philadelphia to address the Student Assembly at the Philadelphia College of Pharmacy. Especially glad to find President Griffith back from the hospital looking fit and presiding over the ceremonies with his usual good humor. In the afternoon to the Temple University's School of Pharmacy 50th anniversary celebration, and in the evening bringing greetings to the assembled alumni and friends of that Institution at the anniversary dinner.

14th The past few days at routine tasks. Among visitors yesterday were Carl Willingham, Secretary of the National Association of Chain Drug Stores, who is interested in ways and means of advancing professional pharmacy.

15th All day at the Statler Hotel in Detroit working on material for the JOURNAL, and in the evening to Ann Arbor where representatives of Student Branches in 11 colleges were gathered for the annual meeting of representatives in District No. 4, and they showed keen interest in the activities at headquarters. After a pleasant visit with Don Francke, off to Chicago and Little Rock.

17th To-day addressing the Arkansas Pharmaceutical Association and expounding the importance of retaining the professional prerogatives of pharmacists in spite of federal food and drug law interpretations. Also enjoying the annual banquet presided over by Walter Cousins.

19th Back to Detroit for the A. PH. A. District Meeting, joining Hans Hansen on the train. Listening to radio broadcast of General MacArthur's speech in the lounge car where were gathered most of the pullman passengers, and the eloquence of the General was such as to cause spontaneous applause even on the train. Now to the meeting of the Michigan Hospital Pharmacists Association, in Detroit, at which Mr. Hansen received the annual Whitney Award.

20th Today a most successful District Meeting at Detroit with members of the ASSOCIATION here from 7 states. President Gregg presided ably and Dean Muldoon gave a fine inspirational luncheon address.

28th The intervening days concerned largely with preparations for the Council Meeting held on April 26 and 27 at the Statler Hotel in Washington and described elsewhere. And now getting ready for the hearings on the Durham bill, which begin May 1.

If "imitation is the sincerest form of flattery"

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The originators of any important advance in therapeutics expect that duplications and variations of their product will inevitably appear.

When Cellothyl was offered as the first significant advance in bulk therapy in years, "variations" were expected as usual, but not the avalanche which has recently appeared. At the latest count more than 40 had reached the market — an impressive tribute to the efficacy and professional acceptance of this new approach to constipation correction.

The high degree of acceptance accorded Cellothyl reflects –

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2. the "Chilcott process" by which Cellothyl *exclusively* is prepared.

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Cellothyl *is the ONLY brand of methylcellulose*

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- ▶ found to correct both acute and chronic constipation in 92% of cases[2]
- ▶ available in both tablet and granule form

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100's	1.00	1.49
500's	4.00	5.95
5000's	32.00	48.00

CELLOTHYL GRANULES (for infants and children)

25 gram	.54	.79
100 gram	1.67	2.47

1. Gastroenterology **13**:275 1949
2. N. Y. State J. Med. **48**:1822, 1948.

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Legal Actions of the

U. S. FOOD AND DRUG ADMINISTRATION

. . . a monthly summary of the terminated cases of the U. S. Food and Drug Administration in fields of interest to the pharmacist . . .

COURT JUDGMENTS—MARCH, 1951

ADULTERATED AND MISBRANDED DRUGS AND DEVICES

Locality	Product	Violation and Sentence
Orange, N. J.	Estinyl tablets; Hormotone "T" tablets; Oreton-M tablets; Neo-Hombreol tablets; Metandren linguets	Misbranded—labeling failed to bear adequate directions for use and adequate warnings against excess dosage and duration of administration. Sentence: Firm and 1 defendant fined $750 each

OVER-THE-COUNTER SALES—PRESCRIPTION DRUGS

Locality	Product	Violation and Sentence
Denver, Colo.	Barbiturates	Refilled prescriptions without authorizations. Sentence: 1 defendant fined $500 and placed on probation for 1 year
Maysville, Ky.	Benzadrine; Methyltestosterone	Sold without physicians' prescriptions. Sentence: 1 defendant fined $300
Las Vegas, Nev.	Barbiturates; Desoxyn	Sold without physicians' prescriptions. Sentence: 1 defendant fined $2500, 1 year suspended sentence, placed on probation for 1 year
Bristol, Tenn.	Barbiturates	Sold without physicians' prescriptions. Sentence: Firm fined $800
Houston, Tex.	Barbiturates; Amphetamine	Sold without physicians' prescriptions. Sentence: 1 defendant fined $500—to be paid within 30 days, 4 year suspended sentence, placed on probation for 5 years with supervision
Poplar Bluff, Mo.	Thyroid; Sulfonamides	Sold without physicians' prescriptions. Sentence: 1 defendant fined $200
Poplar Bluff, Mo.	Barbiturates; Sulfonamides	Sold without physicians' prescriptions. Sentence: 1 defendant fined $200
Poplar Bluff, Mo.	Thyroid; Barbiturates; Diethylstilbestrol; Sulfonamides	Sold without physicians' prescriptions. Sentence: Firm fined $700
Las Vegas, Nev.	Barbiturates; Thyroid; Sulfa drugs	Sold without physicians' prescriptions. Sentence: 1 defendant fined $1000, 1 year suspended sentence, placed on probation for 1 year
Las Vegas, Nev.	Barbiturates; Sulfa Drugs; Desoxyn	Sold without physicians' prescriptions. Sentence: 1 defendant fined $2500, 1 year suspended jail sentence, placed on probation for 1 year

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Clinically, Tolanate offers these advantages:

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New A.Ph.A. Members

THE ASSOCIATION EXTENDS A CORDIAL WELCOME TO THE FOLLOWING MEN AND WOMEN WHO WERE ACCEPTED FOR ACTIVE MEMBERSHIP DURING THE MONTH PRECEDING PREPARATION OF THIS ISSUE.

ALABAMA

Barry, Paul P., Montgomery
Clem, Howard D., Langdale

ARKANSAS

Demere, Shirley P., Ozark

CALIFORNIA

Abramovitz, Harvey M., San Francisco
Ajari, Jun Ted, Vallejo
Jackson, Roy D., San Francisco
Kerr, William R., Los Angeles
Moncur, Hugh D., Jr., San Francisco

COLORADO

Hampton, Leroy, Denver

DISTRICT OF COLUMBIA

Ames, Reede M., Washington, D. C.
Reader, Samuel, Washington, D. C.

FLORIDA

Jollivette, Cyrus M., Miami
Levy, Sol J., Miami
Magness, Charles W., Miami
Miller, Clarence E., Winter Garden
Szekely, Sarah F., Gainesville

GEORGIA

Bacon, Richard W., Atlanta

ILLINOIS

Bakkers, Elves D., Chicago
Jones, Harold V., Cowden
Moss, Chester D., Mundelein
Plache, Leonard R., Aurora
Stutsman, Harold O., Aledo

INDIANA

Fortune, William B., Indianapolis
Riddick, John A., Terre Haute

KANSAS

Childs, Mac, El Dorado

MARYLAND

Ellin, Robert I., Baltimore

MASSACHUSETTS

Denmark, Herman, Dorchester

MICHIGAN

Ballentine, Robert W., Port Huron
Barna, Bohdan, Ann Arbor
Broadbent, Cornelia M., Lansing
Kovalcik, Michael J., Detroit
Lewicki, Bernice, Detroit
Pawlak, Richard J., Detroit
Sinsheimer, Joseph E., Ann Arbor
Smedley, Edward M., Detroit
Sullivan, Ann J., Ann Arbor
Wilson, Ralph A., Birmingham

MINNESOTA

Shom, Sidney I., South St. Paul

MISSOURI

Cornelius, Walter J., Kansas City
Parris, Mrs. Ted, Forsyth

NEW JERSEY

Anastasia, A. A., Long Branch
Berardinelli, Giustino, Newark
Grehn, Edward W., Newark
Parks, Robert E., Park Ridge
Weinglass, Sol, Rutherford

NEW YORK

Ayer, Bessie J., Buffalo
Briggs, Percy E., Hamburg
Doyle, William T., New York
Gilbert, Milton, Brooklyn
Guidotti, Frank P., New York
Heller, John E., Voorheesville
Keilen, Leo N., Geneva
Maidel, Paul E., Dunkirk
Malican, Thomas E., Buffalo
Mettauer, Jean R., Buffalo
Miller, Donald T., Rochester
Obletz, Clarence, Buffalo
Riegel, Maxwell S., Owego

OHIO

Frundt, Rudolph J. L., Columbus
Haynes, Elizabeth W., Cleveland
Holloway, Sidney E., Cleveland

OKLAHOMA

McBride, Bervis B., Jr., Oklahoma City

PENNSYLVANIA

Cario, Frank, Bentleyville
Hathaway, H. L., Philadelphia
Kim, Thomas R., Pittsburgh
Oprendek, Anthony C., Indiana
Pittman, Gerald S., Havertown
Santucci, Michael A., Philadelphia

SOUTH CAROLINA

Williams, L. S., Lancaster

TENNESSEE

Dudley, H. Clifford, Memphis

TEXAS

Borth, Fred, Austin
Hughes, Patrick E., San Antonio
Shattuck, Harold W., Palestine

VIRGINIA

Jennings, Robert N., Lynchburg

WISCONSIN

Bisek, Laura, Milwaukee
Eskin, Arnold, Milwaukee
Knauer, Martin H., Appleton
Knopf, Herman W., Barron
Miller, Irvin H., Gillett
Pedrero, Edward, Jr., Madison
Perkins, Paul E., Green Bay
Sutton, Lee, Milwaukee
Tunak, Arthur E., Milwaukee

FOREIGN

Poulenc, Pierre, Paris, France
Takahashi, Tadashi, Osaka Japan

Deceased Members

Ontko, Harry G., Kenosha, Wis.
Porter, J. Edward, Syracuse, N. Y.

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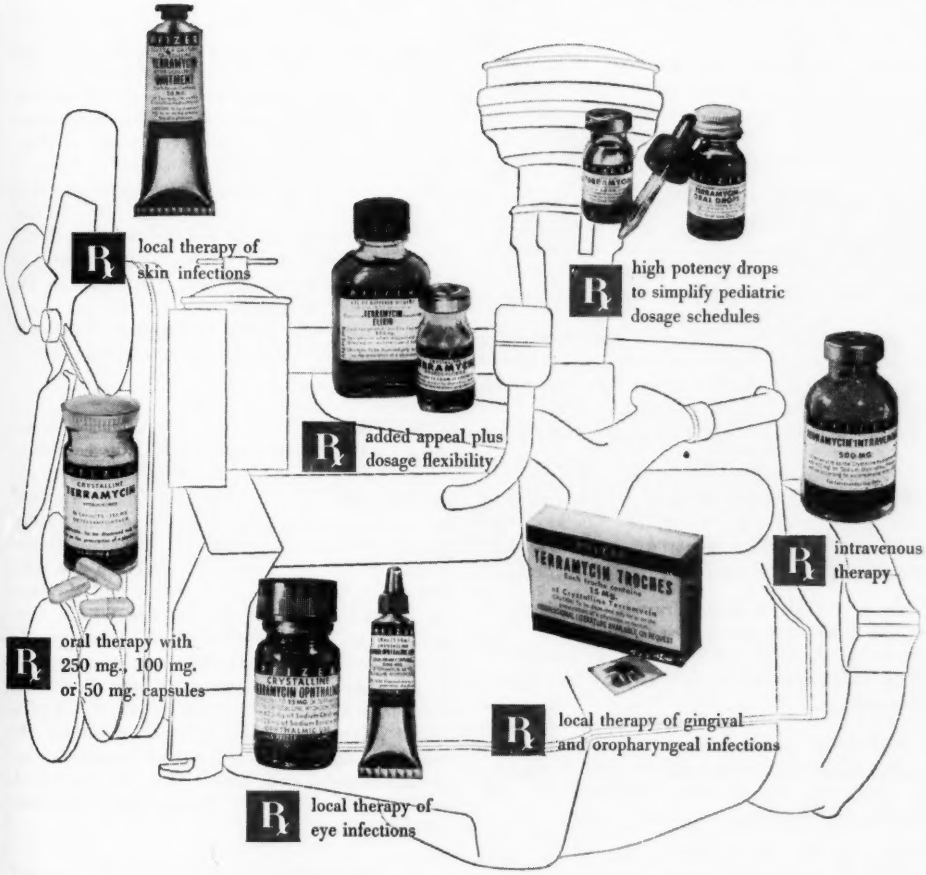
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STUDENT BRANCHES

EIGHT states—New York, Wisconsin, Missouri, Michigan, Ohio, Illinois, Indiana, and Kentucky—were represented at the **District No. 4 Student Branch 1951 Convention** held April 15–17 at the University of Michigan.

Newly elected officers of the **Detroit Institute of Technology Branch** are: Joseph J. McDonnell, president; William R. Cooper, vice-president; Joan L. Killby, secretary; Richard H. Dittus, asst. secretary; and Russell F. Spencer, treasurer.

Members of the **University of Wisconsin Branch** held a regular business meeting on March 23. Mr. William Apple, guest speaker, lectured on the subject, "I Bought a Drugstore Today." A question and answer period followed the speech.

An emulsion contest was an interesting phase of the March 8 **University of Buffalo Branch** meeting. Henry Panassi won in the individual class and the Junior class came in first in class competition.

Oregon State College Branch elected officers at the March 7 meeting. New officers are: Neil Kennedy, president; Phillip Hall, vice-president; Alvis Miller, secretary; and Harold McCallister, treasurer.

University of Mississippi Branch officers who will serve during the new term are Fred E. Bennet, Jr., president; Gerald Glass, vice-president; and Patricia C. McNease, secretary.

Students recently elected to office in the **Ohio Northern University Branch** are: Charles D. Schaeffer, president; John A. Best, vice-president; Dorothy Lilak, secretary; and Frederick C. Minardi, treasurer.

"Wings Over Mexico and Guatamala" was the title of a sound film shown to members of the **Kansas University Branch** at the February 27 meeting.

State University of Iowa Branch held a regular meeting on April 16. Members are now planning a Spring Pharmacy picnic scheduled for May 23.

Paul E. Tufo, Chicago, has been elected president of the **University of Illinois Branch.** Other newly-elected officers are Robert L. Reiser, Petersburg, vice-president; Wanda E. Jagodzinski, Lyons, secretary; and Edmund W. Schmidt, Chicago, treasurer.

LOCAL BRANCHES

CIVIL Defense took the spotlight at the April 9 meeting of the **New York Branch** when Dr. Leonard J. Piccoli, professor of public health, Fordham University College of Pharmacy, and Dr. Joseph Berg, medical director, civil defense aid station, Fordham University College of Pharmacy, spoke on this pertinent subject. Titles of their respective talks were: "The Pharmacist's Role in the Organization and Administration of the Medical Aid Stations"; and "Demonstration on the Technique for Giving Hypodermic Injections And Doing Skin Suturing by the Pharmacist in the Event of an Emergency."

Certificates were issued to those members who had successfully completed the special civil defense training.

THE Fourth Annual Spring Conference, sponsored by the **Pittsburgh Branch,** was held April 4, at Mellon Institute. Papers presented at the meeting were: "Prescription Pricing," by Seymour B. Jeffries, professor of business administration, Brooklyn College of Pharmacy; "Success Begins at the Top," by Robert E. Wallace, Manager, Pittsburgh District, Eli Lilly & Co.; and "Protecting the Net Profit," by Dr. Stephen Wilson, vice-dean of the Pittsburgh School of Pharmacy. At the Annual Banquet, held the same evening, Don E. Francke, president-elect of the AMERICAN PHARMACEUTICAL ASSOCIATION, spoke on "Professional Pharmacy." Mr. Francke discussed the need for higher pharmaceutical standards, including ethical and educational, to distinguish better between Pharmacy, the profession, and Pharmacy, the trade.

The **Philadelphia Branch** sponsored its annual Past-Presidents' Dinner-Meeting on April 12 at which all former presidents of the Branch were honored guests. Chief speaker at this meeting was Colonel Othmar Frank Goriup, Chief, Medical Service Corps, Office of the Surgeon General, Dept. of the Army, who spoke on "Background, Organization, and Purpose of the Army Medical Service Corps."

Building good will—

THERE IS NO SUBSTITUTE for the personal touch in human relations. So-called detailing of physicians is one of the most expensive promotional methods known to the drug industry, yet it is indispensable. These representatives of *Lederle* are literally ambassadors of good will, who interpret our organization to the physician and the pharmacist and, conversely, transmit to us the sentiments of our professional clients. The astute pharmacist can utilize these men for the very practical purpose of learning what physicians are most concerned about professionally and therapeutically. The good will which the community and the profession bear toward the pharmacist is an attribute which needs constant attention lest it become a wasting asset. Our representatives aid in this process.

The *Lederle* organization is continuously improving its detail force and expanding its professional service activities, which back up the representatives in the field. Activities of this kind build a healthy situation with respect to mutual confidence and good will, from which the pharmacist cannot fail to benefit.

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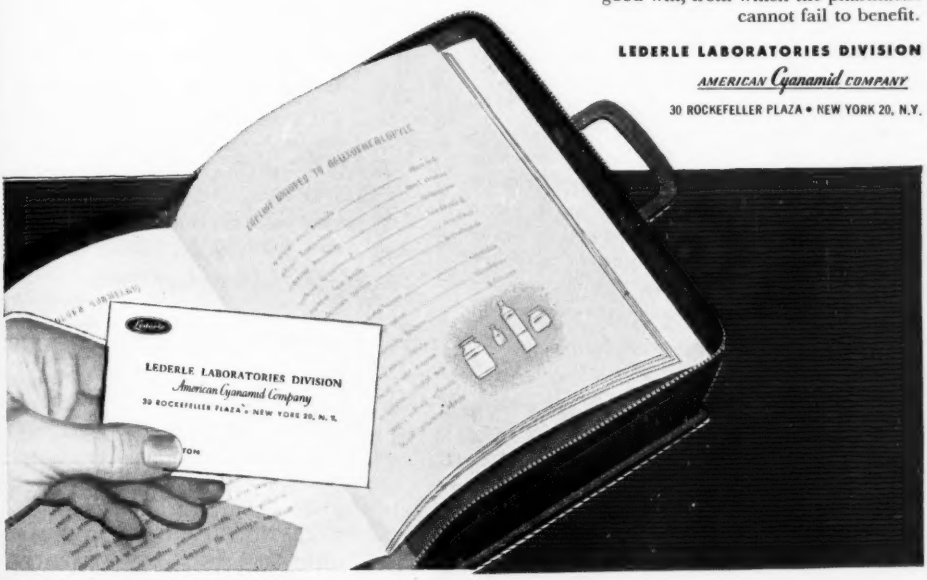

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Capsules: Bottles of 25 and 100, 50 mg. each capsule. Bottles of 25, 100 mg. each capsule. Bottles of 16 and 100, 250 mg. each capsule.
Dental Cones: Tubes of 12 cones.
Dental Paste: Jars of 5 Gm.
Intravenous: Vials of 100 mg. and 500 mg.
Ointment: Tubes of ½ and 1 ounce.
Ointment: (Ophthalmic). Six tubes of ⅛ ounce each.
Ophthalmic: Vials of 25 mg. with dropper.
Otic: Vials of 50 mg. with 10 cc. vial diluent.
SPERSOIDS:* Jars of 12 doses and 25 doses.
Test Tablets: Four tubes of 25 tablets each, 0.06 mg. each tablet.
Troches: Bottles of 25 and 250, 15 mg. each troche.
Soluble Tablets: Tubes of 40, 50 mg. each tablet.
PHARYNGETS:** Boxes of 10.

NORMOCYTIN* Vitamin B_{12b}-B_{12}—A line of products offering vitamin B_{12} in many forms, for the treatment of pernicious anemia and adjuvant treatment of other large cell anemias.

NORMOCYTIN Vitamin B_{12b} - B_{12} *Lederle*
Parenteral: 1, 5, and 25 ampuls of 1 cc., and vials of 10 cc., 30 micrograms per cc.
Tablets: Bottles of 100, 30 micrograms each tablet.

NORMOCYTIN-FOLVITE* Vitamin B_{12b} - B_{12} and Folic Acid Tablets *Lederle* Bottles of 100.

NORMOCYTIN-FOLVITE Vitamin B_{12b} - B_{12} and Folic Acid with Stomach Powder Tablets *Lederle* Bottles of 100.

PRENATAL CAPSULES—A multivitamin preparation containing calcium, phosphorus, iron and manganese, for dietary supplementation in pregnancy. Bottles of 100 and 1,000.

LIVER EXTRACTS—*Lederle* has pioneered in this field for a quarter of a century and maintains a full line of products with and without folic acid, the 15 unit extract having a particularly high content of vitamin B_{12}.

Refined Solution Liver Extract *Lederle*
Vials of 10 cc. and 30 cc.—5 U.S.P. Injectable Units per cc.
Vials of 10 cc. and 30 cc.—10 U.S.P. Injectable Units per cc.

Solution Liver Extract Concentrated *Lederle*
3 vials of 1 cc. and vials of 10 cc.—15 U.S.P. Injectable Units per cc.

Crude Solution Liver Extract *Lederle*
Vials of 10 cc.—2 U.S.P. Injectable Units per cc.

FOLVITE* Folic Acid with LIVER EXTRACT *Lederle*
3 vials of 1 cc., and vials of 10 cc.—15 Units.

FOLVITE Folic Acid with LIVER EXTRACT, CRUDE *Lederle*
Vials of 10 cc. and 30 cc.—1 Unit.
Vials of 10 cc. and 30 cc.—2 Units.

FOLVITE Folic Acid with LIVER EXTRACT, ORAL *Lederle*
Bottles of 8 and 16 fluid ounces.

GRAVIDOX* Pyridoxine-Thiamine Hydrochloride—for the alleviation, in conjunction with other means, of excessive vomiting in pregnancy.
Solution: Vials of 10 cc.
Tablets: Bottles of 50 and 250.

ARTANE* Trihexyphenidyl—This is the product which has created so much comment, in both professional journals and the press, upon its effectiveness in the alleviation of the symptoms of Parkinsonism.
Elixir: Bottles of 16 fluid ounces.
Tablets: Bottles of 100 and 1,000, 2 mg. or 5 mg. each tablet.

**Trade Mark *Reg. U.S. Pat. Off.

When to Test the Prescription Balance

Oscar Oldberg wrote in 1913, "The sensitiveness and accuracy of (prescription) balances cannot be too strongly dwelt upon and all balances should be verified not only upon purchase but subsequently from time to time whether frequently or rarely used." He also wrote: "Do not overload the balance, keep it in a fixed place, keep the pans clean and reverse them from time to time." This is still sound advice.

If your balance meets the above requirements, set up a regular checking schedule. We have periodic checks to lengthen the lives of our automobiles. We should make periodic balance checks to protect the lives of our patrons. A thorough test every four to six months would be adequate under ordinary working conditions. We suggest that this article be kept, or the entire issue could be filed in a convenient place for ready reference. A chart similar to the one in Fig. 3 could be used to record the time and results of tests. Copies of this chart on heavy cardboard will be furnished by the AMERICAN PHARMACEUTICAL ASSOCIATION on request. (See coupon at right.)

American Pharmaceutical Association
2215 Constitution Avenue, N.W.
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Dear Sirs:

Please send me my copy of the Prescription Balance Inspection Chart.

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Name of Pharmacy.....

No. & Street.....

City.....Zone.....State.....

I am a member of the A. PH. A. ☐

I am not a member of the A. PH. A. ☐

I am interested in joining the A. PH. A. ☐

PRESCRIPTION BALANCE TEST CHART

DATE OF TEST	SENSIBILITY RECIPROCAL No. of divisions rest point is shifted by 10 mg. (check if not less than 1 div.)		ARM RATIO 10 Mg. should overcome rest point difference. Check if requirement is met.	SHIFT TESTS 20 mg. should overcome rest point difference. Check if requirement is met.			RIDER AND WEIGHBEAM TESTS 10 mg. should overcome rest point difference. Check if requirement is met.	
	No Load	10 Gm. Load		Right Weight Shifted	Left Weight Shifted	Both Weights Shifted	500 mg. Test	1 Gm. Test

Fig. 3. Copies of this Chart, printed on heavy cardboard, may be had by writing to the AMERICAN PHARMACEUTICAL ASSOCIATION. Use the coupon at upper right when ordering.

Straight From Headquarters . . . . . from page 275

The Durham bill is now passing through its third stage and if and when the Committee on Interstate and Foreign Commerce makes its report to the House of Representatives it must be carefully scanned to make sure that pharmacists' prerogatives are not encroached upon unnecessarily, before individual Congressmen are asked to vote for it.

The Council of the AMERICAN PHARMACEUTICAL ASSOCIATION feels that pharmacists and pharmaceutical associations should carefully study the final proposals before giving their endorsement to this measure.

Meeting of the Council

ALL of the 16 members of the Council of the AMERICAN PHARMACEUTICAL ASSOCIATION were in attendance at the two-day session held at the Statler Hotel in Washington on April 26 and 27. Important business dealing with the internal affairs of the ASSOCIATION, as well as action on pending matters affecting the welfare of pharmacy were given close attention.

Plans for the Buffalo Convention to be held the week of August 26 were reviewed and approved, and considerable attention was given also to the plans for the centennial meeting in Philadelphia in 1952.

It was decided to arrange for observance of the hundredth anniversary of the founding of the ASSOCIATION throughout the entire centennial year. During the centennial convention itself, it is planned to set aside one day for celebration of the 100th anniversary. Plans for international aspects of the celebration and the cooperation of affiliated and related organizations in developing various aspects of the centennial program were formulated on a tentative basis.

Considerable attention was given to the report of Chairman Schaefer of the Committee on Legislation, who pointed out that hearings on the Durham bill (H.R. 3298) were scheduled for the following week.

Dr. Schaefer reported that the expected ruling of the Federal Security Administrator on the prescription filling and refilling provisions of the law is still in process. In view of the fact that H.R. 3298 does not satisfy the need for a clear definition of the professional responsibility of pharmacists, the Council adopted a statement to be filed with the Committee on Interstate and Foreign Commerce, as presented by Chairman Schaefer. Chairman Schaefer pointed out that previous commitments for the week during which the hearings were scheduled made it impossible for him to attend the hearings, and the Secretary was instructed to present the statement adopted by the Council when he appeared before the Committee to give such other testimony as may be required at the time.

The Council voted to ask the Secretary of the National Association of Boards of Pharmacy to take the initiative in calling a preliminary conference of the secretaries of the N.A.B.P., N.A.R.D., and A. PH. A. to lay plans for the Convention on Pharmacy Legislation proposed in the pharmaceutical survey.

President Gregg reported that he had addressed 14 state pharmaceutical associations, 9 local branches, 6 student branches, 3 metropolitan pharmaceutical associations and one county association since taking office. Reports from the Committees on Finance and Property and Funds dealt with the investments of the ASSOCIATION and its financial condition, which was found to be excellent. With the exception of minor necessary renovations of the building and grounds, the property of the ASSOCIATION was found to be in excellent condition.

The Secretary's report on membership showed a highly satisfactory increase in both active and associate members, and an all-time high for returns from dues.

Improvements in the *Practical Pharmacy Edition* of the JOURNAL were reported by Mr. Bernard Zerbe, the new Executive Editor, and plans for future editions of the JOURNAL were approved.

Change in the name of the Bulletin of the Committee on National Formulary to "Drug Standards," with a broadening of the field of coverage of the Bulletin was approved. Reports on the National Formulary, and the *Scientific Edition* of the JOURNAL were made by Dr. Justin L. Powers, and a report on the laboratory was made by Dr. Samuel Goldstein.

Dr. Ward Rice of the Lilly Laboratories

(Continued on Page 314)

National Defense..... from page 301

DR. RICHARD L. MEILING RESIGNS

Dr. Richard L. Meiling, Chairman of the Armed Forces Medical Policy Council, has resigned, effective June 30. He will be succeeded by Dr. W. Randolph Lovelace II, of Albuquerque, N. M.

In his letter of resignation to Secretary of Defense General George C. Marshall, Dr. Meiling said that his two-year leave of absence from Ohio State University College of Medicine, where he is assistant professor of medicine, terminates on that date, and that he felt he must return to his professional, clinical, and academic duties.

Dr. Meiling was an original member of the Armed Forces Medical Advisory Committee in November, 1948, at the invitation of Secretary of Defense James Forrestal. He later became Director of Medical Services, Department of Defense, and more recently Chairman of the Armed Forces Medical Policy Council.

General Marshall, in accepting Dr. Meiling's resignation, said, "you have very ably discharged a difficult role in unification, in developing a coordinated medical program for the Army, Navy, and Air Force without loss of the individual medical service independence necessary to the combat mission of each service."

Dr. Lovelace is Head of the Section on Surgery and a member of the Board of Governors of the Lovelace Clinic. He is also a member of the Board of Trustees of the Lovelace Foundation for Medical Education and Research.

During World War II, Dr. Lovelace served with the Army Air Force, advancing from the rank of Major to that of Colonel, which he now holds in the Air Force Reserve.

Following the war, Dr. Lovelace acted as special consultant to the Air Force, and was appointed a member of the Armed Forces Medical Policy Council when it was established on January 2, 1951.

Dr. Lovelace was born in Springfield, Missouri, in 1907. He received his A.B. Degree from Washington University, St. Louis, Missouri, in 1930; an M.D. at Harvard University in 1934; and an M.S. in Surgery at the University of Minnesota in 1939.

After interning at Bellevue Hospital, New York City, Dr. Lovelace served as a Fellow of the Mayo Foundation, Rochester, Minnesota, and later as chief of a surgical section of the Mayo Clinic.

Dr. Lovelace is a member of the AMA and many other medical associations.

Chloroquine
..... *from page 278*

spread the infection in their own communities. Until that time, it was admitted that many physicians had been trained to think of amebiasis as a disease found for the most part in the tropics.

Examinations of Army medical officers in Washington, D. C., who had never been out of the United States revealed 12.7 per cent positive cases. The difficulty of making a positive diagnosis, dependent as it is on painstaking and repeated laboratory examinations, makes it appear likely that the incidence is even greater than the figure states. In New Orleans' Charity Hospital, Dr. A. Ochsner reported finding that 10 per cent of patients with appendicitis had amebic involvement.[3] The incidence among the general population of the country was conservatively estimated at from 5 to 10 per cent, while surveys showed that among some institutions and selected occupational groups, an incidence of from 53 to 55.5 per cent was evident, especially among food handlers.

Chloroquine and Milibis

Recently, a report on chloroquine by Dr. Harold C. Conn, of the regional office of the Veterans Administration, appeared in *Postgraduate Medicine*.[4] He recommends that in every future case of amebiasis, both chloroquine and milibis, another new preparation for treating the infection, should be administered, because such a combination is effective against *E. Histolytica* when it occurs anywhere in the body. Chloroquine alone will cure 50 per cent of the intestinal cases, Dr. Conn stated.

While chloroquine combats amebiasis when it exists in organs and tissue other than the intestine, such as the liver, milibis has been proved an effective remedy specifically indicated for treatment of the intestinal form of the disease, which is the form usually encountered. Because of the risk of extra-intestinal involvement, however, combination of the two drugs has been recommended.

So, even more significant, perhaps, is the research now being conducted to combine chloroquine with milibis. One tablet then will act to suppress the "world's two most prevalent infectious diseases," malaria and amebiasis, and combat the different forms of amebiasis in the U.S.

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[3] Ochsner, A., *Surgery*, Vol. 1, p. 633.
[4] Vol. 9, p. 144 (Feb. 1951). See also W. G. Sawitz, Jefferson Medical College (March 1951), description of treatment with Aralen, and reports in *Indian Medical Gazette* (Feb. 1950); *Revista Kuba* (May 1950); and *So. Med. Journal* (April 1950).

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HANS S. HANSEN RECEIVES HOSPITAL PHARMACY AWARD

Hans S. Hansen

Mr. Hans S. Hansen, administrator at Grant Hospital in Chicago, and formerly a pharmacist, was the recipient of the second Harvey A. K. Whitney Lecture Award, given annually by the Michigan Society of Hospital Pharmacists. In presenting the 1951 Award given in honor of the first chairman of the American Society of Hospital Pharmacists, Mr. Hansen was recognized for his leadership in promoting growing understanding of the professional responsibilities of hospital pharmacists by the administrators and other members of the hospital health teams. It was pointed out that he has contributed significantly to advances in hospital pharmacy economics, to the establishment of Pharmacy and Therapeutics Committees in hospitals throughout the nation, and a number of other practices which have today become standard procedures in hospital pharmacy. Furthermore, he has aided the perpetuation of these principles of practice through his participation as a member of the faculty of several Hospital Pharmacy Institutes and by a number of contributions to hospital literature.

Mr. Hansen has served pharmacy for many years having been a retail pharmacist, a medical representative and a hospital pharmacist, as well as filling several teaching posts. He is a past-president of the American Society of Hospital Pharmacists and has served as a member of the Council of the AMERICAN PHARMACEUTICAL ASSOCIATION.

This testimonial dinner honoring Mr. Hansen and Mr. Whitney was held at the Henry Ford Hospital in Detroit on April 19. More than 100 members and guests of the Michigan Society of Hospital Pharmacists were present including A. PH. A.'s President Henry Gregg and Secretary Robert P. Fischelis.

STRAIGHT FROM HEADQUARTERS

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was elected to succeed Dr. F. E. Bibbins as a member of the Committee on National Formulary. Members of the subcommittees of the Committee on National Formulary were also elected.

Opposition to lowering the standards of admission for service as pharmacists in the Veterans Administration was recorded and the Secretary was instructed to submit a statement on behalf of the ASSOCIATION on the pending House bill 302, which seeks to lower these standards. However, it was decided not to oppose provisions for the advancement of pharmacists already in the Veterans Administration who have Civil Service status and who may not meet the higher requirements for admission to the service.

Chairman Jenkins submitted a revised code of ethics for the consideration of the Council and it was approved for submission to the House of Delegates by a majority vote. Chairman Jenkins also presented a proposal for an annual pharmacy award which is to be announced at the 1951 Convention, and will become effective for the Convention of 1952.

It was decided to participate in the Federal Civil Defense Conference to be held in Washington on May 7 and 8.

The general discussion of reports of officers and committees, covered a wide range of subjects of which the foregoing references are merely highlights. More complete information will be published in later articles. A report of the Committee of Six, which included revision of the by-law along lines covered in the discussions by the members of the ASSOCIATION at the Atlantic City Convention was submitted by Chairman Christensen and will come to the members in detail by mail prior to the Buffalo Convention.

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COLLEGES

Appointment of Dr. Roy A. Bowers, dean of the College of Pharmacy at the University of New Mexico, as dean of the **Rutgers University College of Pharmacy** at Newark was announced April 14. Dr. Bowers will succeed Dr. Thomas D. Rowe who will leave Rutgers on June 30 to become dean of the pharmacy college at the University of Michigan, his alma mater.

Dr. Bowers, a native of Racine, Wisconsin, is a graduate of the University of Wisconsin where he received his Bachelor of Science degree in 1936 and his doctorate in 1940.

Temple University School of Pharmacy commemorated fifty years of service to the profession of pharmacy on April 11, when its Fiftieth Anniversary was celebrated. The celebration was jointly arranged by the administration and faculty of the school of pharmacy and the Pharmacy Alumni Association.

Philadelphia College of Pharmacy and Science announces that Thursday, May 24, is the date of the Spring Alumni Reunion Dinner for members of the classes of 1901, 1906, 1911, 1916, 1921 1926, 1931, 1936, 1941, and 1946.

At the annual meeting of the members of the College, held March 27, Dr. Ivor Griffith was re-elected president, making this his eleventh year as president. All other officers of the College were re-elected at the meeting.

The annual Pharmacy Alumni Banquet of **Howard College** was held May 14. John McCartney, 2nd vice-president-elect of the AMERICAN PHARMACEUTICAL ASSOCIATION, was guest speaker.

Howard A. Getz was recently elected president of the Hugh C. Muldoon and Pharmacy Alumni Foundation of **Duquesne University.** Other officers are: Ralph R. Kreuer, vice-president; Joseph R. De Philip, secretary; and George L. McMillin, Jr., treasurer.

Junior and senior class members of the **University of New Mexico College of Pharmacy** recently visited the Eli Lilly and Company Pharmaceutical house in Indianapolis, Ind.

The senior class of the **University of Connecticut College of Pharmacy** spent the week of March 31–April 6 touring several pharmaceutical laboratories. Abbott Laboratories, N. Chicago, was the first plant visited. Several days were then spent in examining various pharmaceutical techniques and practice at the Eli Lilly and Company Laboratories in Indianapolis.

ASSOCIATIONS

March 25, 26, and 27 marked the dates of the 72nd annual convention of the **Kansas Pharmaceutical Association,** which opened in Wichita with registration and committee meetings on March 25. Association officers installed at the convention were: Navy Lt. Norman McCullough, Kingman, president; Robert Lewis, Colby, president-elect for 1952–53; Carl Elking, Topeka, 1st vice-president; Guy Hinor, Ulysses, 2nd vice-president; Mrs. Clara B. Miller, Topeka, executive secretary-manager; and John Schrepel, Pratt, treasurer.

Featured speakers at the convention were: C. C. Kilker, executive secretary of the Kansas Chamber of Commerce; Rowland Jones, president of the American Retail Federation; Dr. Robert P. Fischelis, secretary and general manager of the AMERICAN PHARMACEUTICAL ASSOCIATION; and E. Allen Newcomb, executive secretary of the National Wholesale Druggists Association.

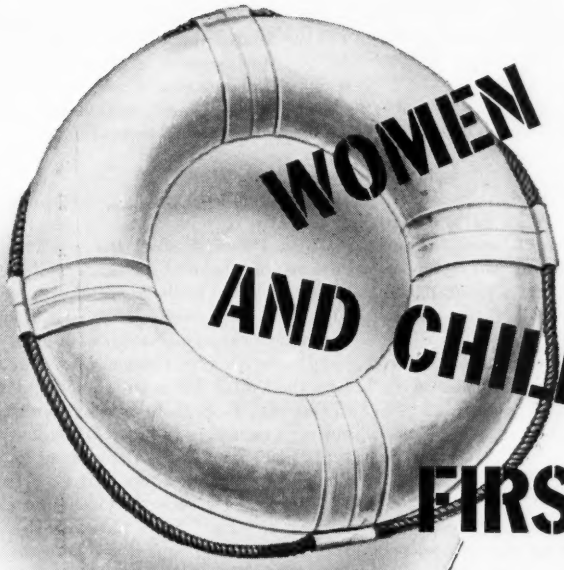
The **New Jersey Pharmaceutical Association** has scheduled its 81st annual convention to be held in Atlantic City, June 18–21. An exhibit and drug show will be held in conjunction with the convention.

AT RANDOM

"Build mental health—our children's birthright, the nation's strength," was the theme of the **third annual Mental Health Week,** observed May 2–8. Sponsoring organizations were the National Association for Mental Health, National Institute of Mental Health, and various State and local mental hygienic societies.

James Hill, Jr., president of Sterling Drug Inc., and George S. McMillan, vice-president of Bristol-Myers Company, were elected to the Board of Directors of Brand Names Foundation at the **sixth annual Brand Names Day,** held April 11

(Continued on Page 318)



Protection of women and children has always been the first thought of man in the face of any emergency.

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Vitamin C (ascorbic acid)	30 mg.
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BRIEFLY NOTED • • • • • • *from page 316*

in New York City. They will serve one year terms.

Keller Drug Company, Minneapolis, was awarded a plaque as the "Drug Store Brand Name Retailer of the Year" at the Salute to the American Merchant Luncheon of Brand Names Day.

For important contributions toward the understanding of human metabolism, **Dr. John M. Buchanan,** associate professor of physiological chemistry, University of Pennsylvania, received the $1000 Eli Lilly & Company Award in Biological Chemistry, April 2, at the Boston session of the American Chemical Society's 119th national meeting. The award, which includes a gold medal, was made at a general assembly of the Society at the Hotel Statler.

Dr. Buchanan presented his award address before the Society's Division of Biological Chemistry on April 3. His topic was "Biosynthesis of the Purines."

MANUFACTURERS

Dr. A. William Lescohier, one of the nation's outstanding leaders in the pharmaceutical industry, retired April 3 as president of Parke, Davis & Co., a post he had held since March 1, 1938. He was succeeded in the 85-year-old company's top post by Harry J. Loynd, who had been vice-president in charge of domestic and Canadian sales and promotion since June, 1945.

Melvin C. Eaton, president of the **Norwich Pharmacal Company,** has recently been appointed chairman of the newly created Payroll Savings Advisory Committee to the Treasury Department's U. S. Savings Bonds Division for New York.

Dr. Maurice L. Tainter, director of the **Sterling-Winthrop Research Institute** at Rensselaer, of N. Y., was recently elected to the Academy of Medical, Physical, and Natural Sciences of Havana as a foreign corresponding member.

The year 1951 marks the 100th birthday of the **Taylor Instrument Companies** of Rochester, N. Y. Starting as a tiny partnership for making household thermometers and barometers in 1851, the business of Kendall & Taylor has since become a multi-million dollar corporation.

Personnel Changes—

Chas. Pfizer & Co., Inc.—Wilbur A. Lazier, director of chemical research and development, has been elected to the board of directors. **Ayerst, McKenna & Harrison Ltd.**—Dr. John B. Jewell was recently appointed medical director of the company, now being in charge of medical services for both the United States and Canada. **Parke, Davis & Co.**—Dr. F. E. Eads, of Michigan State College, has been named assistant to Dr. Hilton von Rosenberg, manager of the Department of Veterinary Medicine. **Nepera Chemical Co., Inc.**—George W. Mast, M.D., recently joined the Company as medical director. **Riker Laboratories**—Dr. H. L. Holmes has been appointed Director of Organic Research. Dr. Holmes' duties will involve basic research on the alkaloidal fractions of Veratrum viride and other plant drugs now under study. **Dow Chemical Company**—John C. Van Horn has been appointed assistant manager of the technical service and development division.

GOVERNMENT

Civil Service positions with annual salaries ranging from $3825 to $6400, are now open for **pharmaceutical chemists** with varied degrees of training and experience. According to information supplied by the Medical Division, Army Chemical Center, Maryland, personnel with experience and interests in the fields of ointments—both theoretical and applied—are especially needed. Interested persons should address correspondence to Albert A. Kondritzer, Chief, Pharmaceutical Section, Medical Division, Army Chemical Center, Maryland, for further information and application blanks.

Identification cards are now being issued to **Spanish-American War veterans** who desire to establish their legal right to **outpatient treatment** for nonservice-connected disabilities. The right of Spanish-American War veterans to such treatment is provided under Public Law 791, 81st Congress. Cards are issued through the V-A Regional Offices to applicants for outpatient treatment when they have established their eligibility.

(*Continued on Page 320*)

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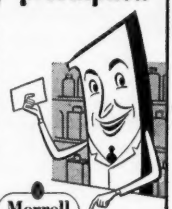

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	RUBRAMIN *per cc.*	RUBRAFOLIN *per capsule*	RUBRATON *per teaspoonful*	RUBRAFERATE *per capsule*
VITAMIN B_{12}	**15, 30 & 50** micrograms	**25** micrograms	**4.17** micrograms	**4.17** micrograms
FOLIC ACID		**1.67** milligrams	**0.28** milligrams	**0.28** milligrams
IRON			**220** milligrams ferric ammonium citrate	**130** milligrams ferrous sulfate exsic.
VITAMIN C				**50** milligrams
DOSAGE THERAPEUTIC	15 to 30 micrograms daily for a week or more; when neurologic involvement is present, 50 micrograms or more daily.	1 or 2 capsules daily	2 teaspoonfuls t.i.d.	2 capsules t.i.d.
MAINTENANCE	Generally, 30 to 50 micrograms twice a month; when neurologic involvement is present, 50 micrograms a week.	1 capsule daily	1 teaspoonful t.i.d.	1 capsule t.i.d.
SUPPLY	1 cc. ampuls, 15 & 30 micrograms of vitamin B_{12} per ampul. 5 & 10 cc. vials, 30 micrograms per cc. 10 cc. vials 50 micrograms per cc.	Bottles of 100	Pint and gallon bottles	Bottles of 100

NOTE: The above are average doses. As with all antianemia preparations, dosages must be adjusted to meet the needs of the individual patient.

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BRIEFLY NOTED • • • • • • *from page 318*

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1. Presentation of form letter (FL 10-95); or presentation of a letter from V-A notifying the veteran of a V-A award, or both.
2. Presentation of an honorable discharge certificate.
3. Verification of applicant's service and C-number assignment through filing Form 10-2827.

Colonel Howard B. Nelson, formerly with the National Security Resources Board as Health Supplies Consultant of the Health Resources Office, has been assigned as Air Force member of the Armed Services Medical Materiél and Specifications Committee. This Committee monitors development projects, adopts new items for standard supply tables and deletes obsolete items from the medical supply catalog.

Colonel Nelson has served as executive officer of the 271st Station Hospital in the China-Burma-India theater. He has also been chief for standardization, specifications and procurement coordination branch of the Office of the Air Force Surgeon General, during which time he headed a five months' medical materiél mission to Africa, Mediterranean and European theater of operations.

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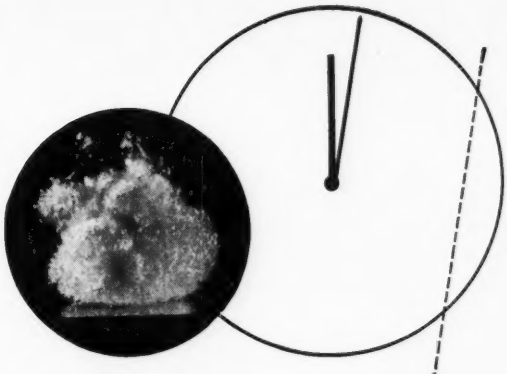

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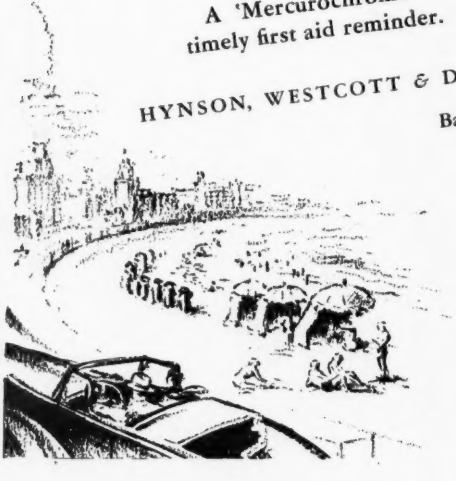
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